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A Monthly Economic Review
of Chemistry and Industry

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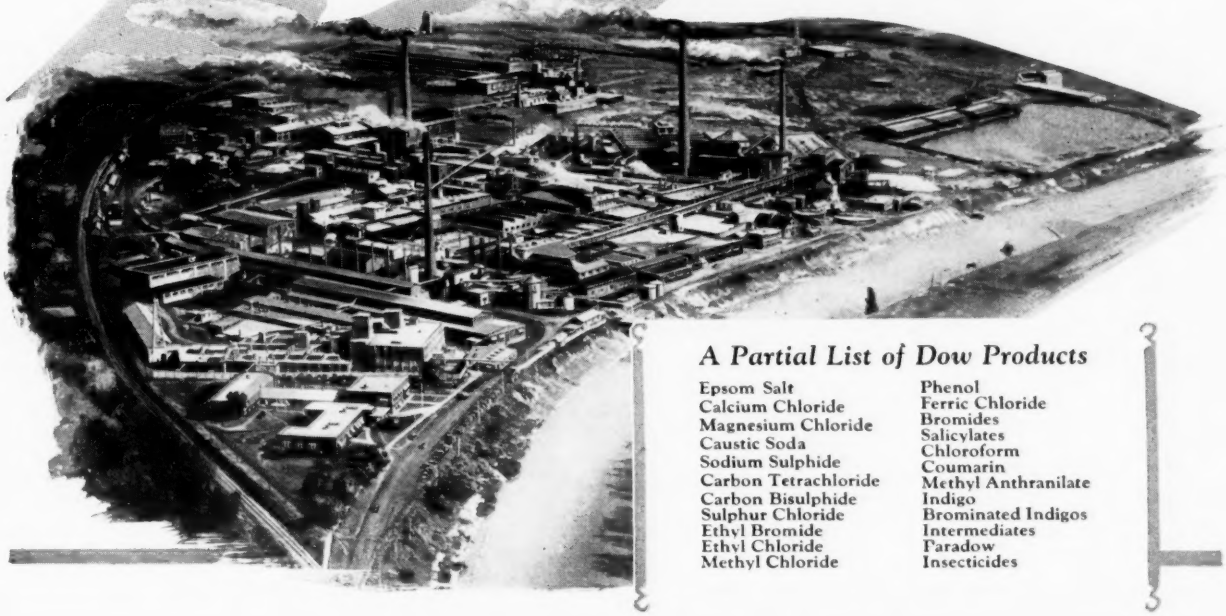

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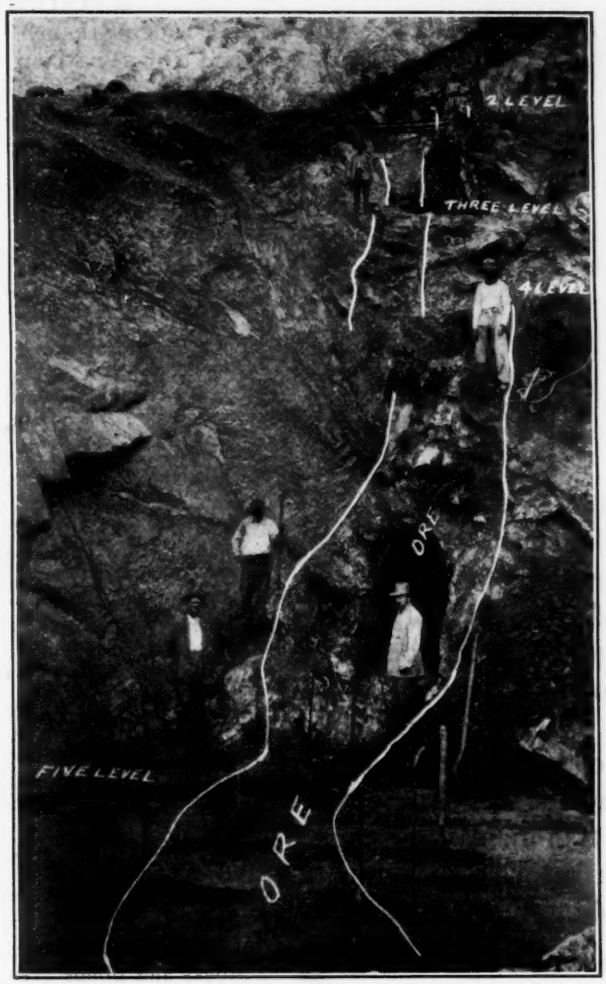

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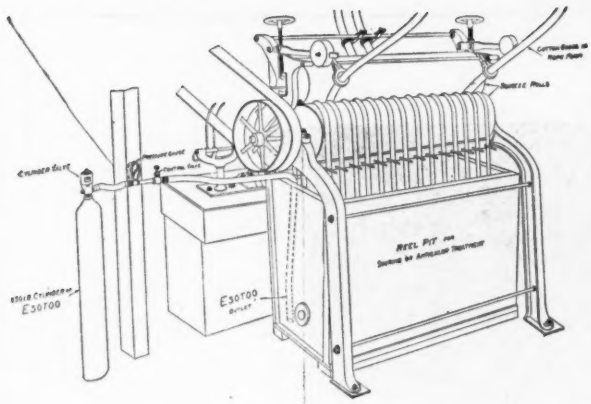

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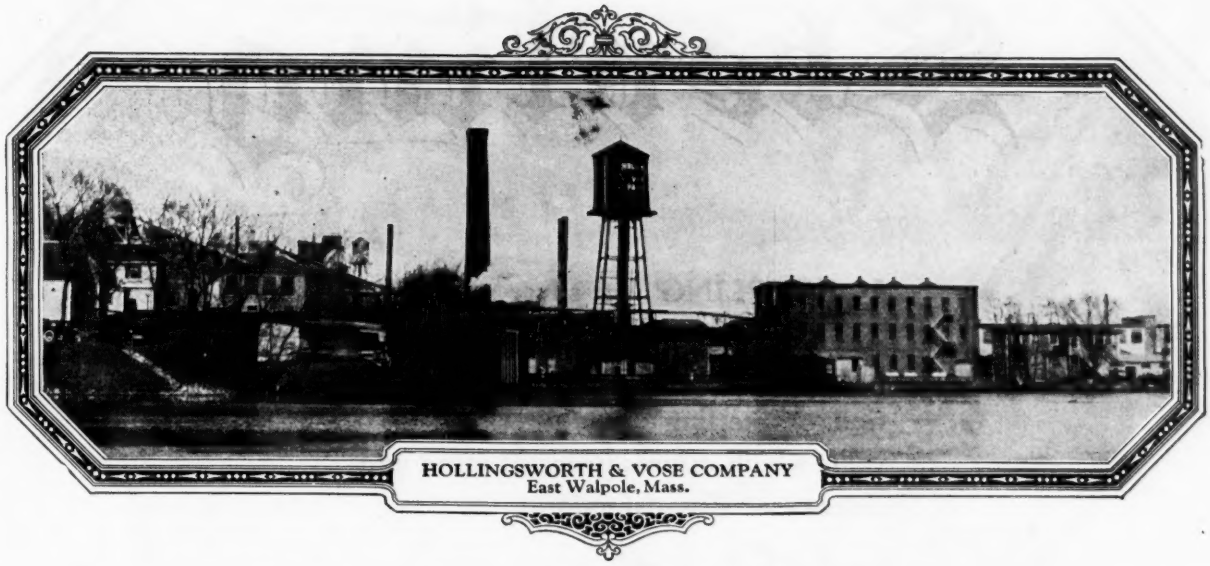

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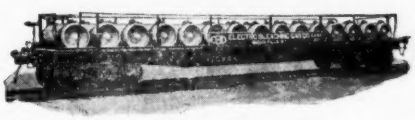

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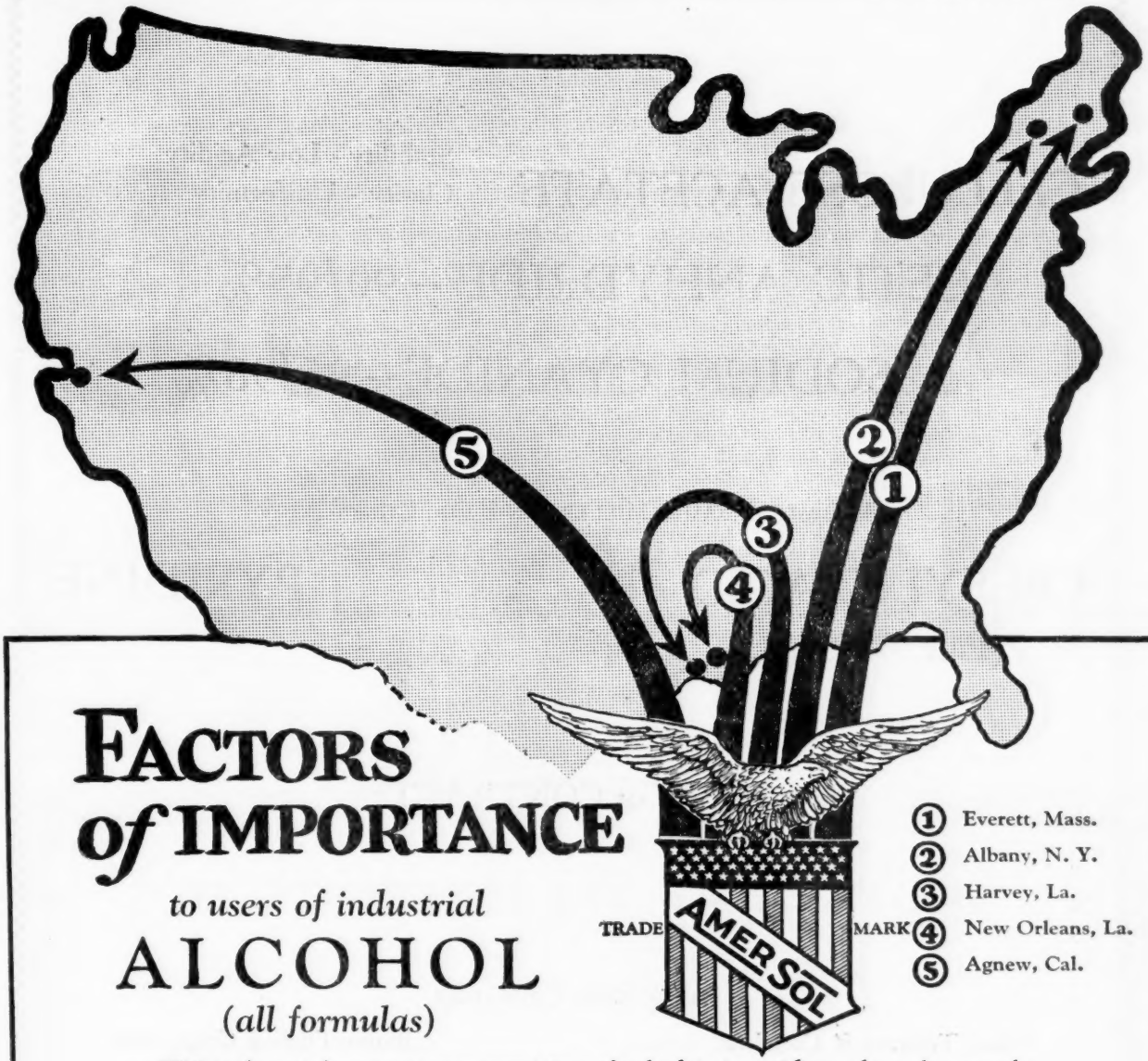

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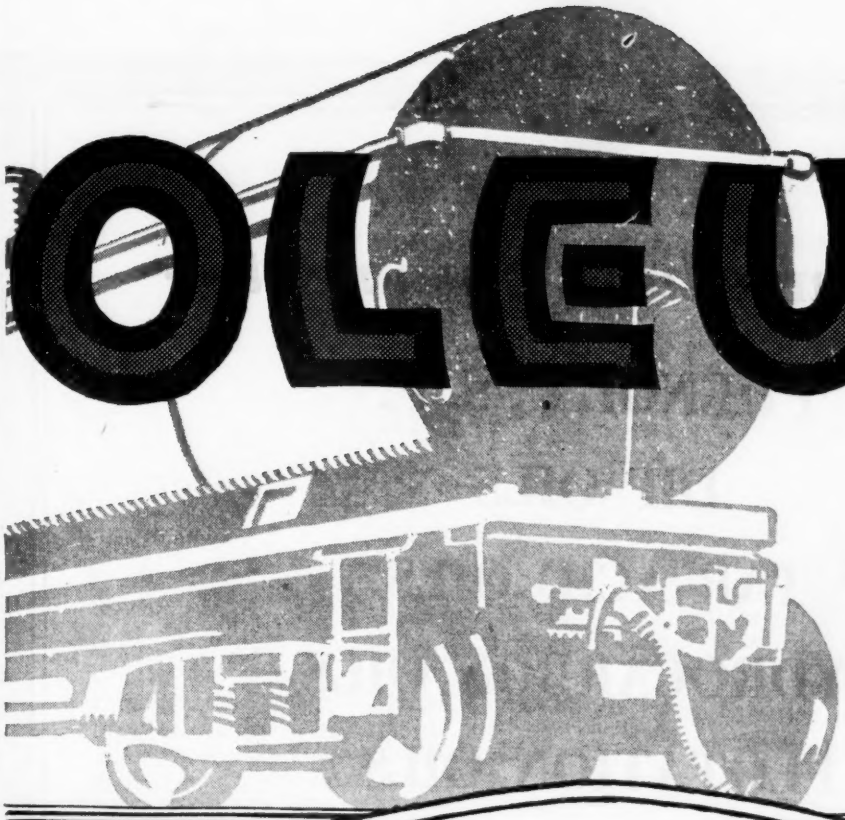

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CHEMICAL MARKETS

VOL. XX NEW YORK, APRIL 14, 1927 No. 15

Chemical Invention

COURAGE is plainly a salient, desirable characteristic of the leaders of the Institute of Chemists. At the time of their organization they boldly defined the chemist's standard of ethics. Recently, they resolved to draft a standard form of chemists' employment contract.

Any professional association which deals honestly with ethical problems and grapples firmly with industrial questions is certainly not lacking in temerity. They might even be suspected of possessing that variety of bravery not usually associated with the angels. But this is unkind and unfair. They have recognized two evils, affecting both the profession and the industry, and very fittingly they have determined to put their authority and their effort to work for better conditions. All praise to them, and more power!

IN their recent discussion of the employment contract at New Haven, a number of members emphasized—overemphasized, we suspect—the thought that higher ethical standards among chemists would go far towards solving the contract problem. The physician and the attorney, working without contracts, were held up as models of the ideal condition. An idyllic condition rather—for these chemists overlook the peculiar conditions surrounding speculative research for commercial ends and the very great financial rewards at stake. In fact it is to these financial aspects of the problem in its broader aspects that we should like to direct the particular attention of the Committee which will be charged with the drawing of a model employment contract.

TODAY in every industry discoveries in the science and technique of chemistry are being translated into practical industrial production and process with bewildering rapidity. As a result, the field of applied industrial chemistry has tremendously broadened. Chemistry is the very mainspring of our recent material progress, and we can foresee a further extension of chemistry in industry yet undreamed. Invention, as Dr. Grosvenor pointed out, is our best weapon in the struggle for existence, and in the keen competition for markets among our great chemical corporations during this chemical era, chemical invention is very truly the child of necessity. Chemistry is extending competition from among the companies within an industry to competition of industry with industry, of nation with nation. Research has become a necessity for the company, for the industry, for the country. A sound basis of co-operation between chemical brains and invested money to first ferret out and then put upon the market chemical discoveries is one of our most basic, modern problems. Unless chemical invention is fostered, we jeopardize our entire industrial structure.

PROBING POTASH

Potash is again on the rack for being a monopoly. Because the principal sources of potash today are France and Germany, because these two countries put their interests together and market cooperatively, this country, which is a large consumer of potash, must throw every possible obstacle in their way.

If the United States needs potash and these countries are the only source of supply, they can charge what they want for it and no power on earth can stop them. Recently the Secretary of Commerce prevented the floating of a loan in this country to finance this industry in Germany merely because it was a monopoly. The loan was then secured in England, with the result that American bankers lost the business, the loan cost the producers more since the English were in all probability refinanced by American funds, and the potash producers went merrily on their way.

The only constructive step that has thus far been taken by the government to remove American potash consumers from the foreign yoke was the recent appropriation of funds for prospecting in Texas. If this search results in locating sources of potash, and the costs of recovery are competitive with our existing supplies and importations the industry may be extended here to care for all our requirements. If not, we must submit or find substitutes.

MORE PROGRESS IN DYES

Despite all the reports circulated to the contrary, the American dye industry is still making remarkable strides in the right direction. If the preliminary report of the Tariff Commission means anything at all, it means that the dye makers of this country are increasing their grip on the home market and are also exporting increasing quantities, despite the bitter competition of foreign makers.

Production of dyes last year increased to the high figure reached in 1920, and was exceeded only by the year 1923. Imports accounted for only 5.2 per cent of our total production, against 6.2 per cent for 1925. Remarkable progress in the manufacture of vat dyes, and production for the first time of many dyes of exceptional fastness to light, in a large measure accounts for the decrease of this percentage. Imports of dyestuffs were made up very largely of high-priced specialties, the very line of products to which domestic makers are now directing their attention.

Prices declined as was expected. The weighted average price of all dyes decreased 10 per cent. But there is no cause for alarm in this fact since the lowering of prices by American manufacturers only makes their position still more secure against foreign invasion.

ALCOHOL RAW MATERIALS

Raw material costs have at last touched alcohol. The recent advance in prices was entirely due to the fact that distillers were forced to contract at sharply higher prices for their molasses supplies. Thus the level to which prices of alcohol can descend without spelling loss to the distillers has been very materially raised. Molasses at 7 cents per pound today against 2½ cents per pound a year ago makes for an increase of almost 12 cents in the molasses required for one gallon of alcohol, and the price advance was only 8½ cents per gallon. Perhaps, as some indicate, there may be further advances in prices, or perhaps the price of 7¼ cents for molasses was compromised.

Molasses at 7¼ cents per pound is as high as is possible with corn at present prices. At this figure for molasses, the sugar producers are getting a good price, but are sufficiently below corn so as not to invite competition from that product. Manipulation of raw material is possible until prices reach a point that cause consumers of the finished products to search for substitutes. Thus denatured alcohol can be driven by either molasses or corn only to a point that will not invite serious substitution from the multitude of solvents that are now being produced from widely divergent raw materials.

Mercury has advanced to a price of $123 per flask, against a normal price in the neighborhood of $65. A real shortage with all supplies in strong speculative hands is the reason. However, the cost of mercury seems to make very little difference to the consumers of it. Where it is used it is absolutely essential, and the additional cost is easily passed along to the ultimate consumer.

A bituminous coal strike is in progress in this country according to the newspapers. If it were not for the papers, the fact would not be generally known, since no industry other than the coal one, appears to have been affected in the least. Even the price of benenze refuses to respond to the efforts of some producers to point the coal strike bogey to the consumers.

[*Ten Years Ago*]

(From Drug & Chemical Markets, April 11, 1917)

Merger of Schoellkopf Aniline and Chemical Works, Buffalo; Wm. Becker's Aniline and Chemical Works, Brooklyn; Standard Aniline Products Co., Manhattan; National Aniline and Chemical Co., New York, is planned, the new company to be capitalized at $20,000,000.

Supreme Court of the United States has decided that price fixing restrictions by means of licenses for public use of patented articles are illegal and void.

The declaration of war has led dye manufacturers to believe that their plants will be taken for making munitions; and that the demand for acid for the Government will cut off supplies for color makers.

Market for sulfuric acid is decidedly firmer and prices have advanced. Offerings are 66 degree $28 @ $30 per ton, 60 degree $20.

California Alkali Co. has been formed to build a plant at the foot of Owens Lake to manufacture sodash.

Aniline oil for red has shown remarkable improvement. Spot stocks are short and higher prices are predicted.

The Fertilizer Future

Taken as a group, during the past few years, neither the fertilizer industry nor their customers, the farmers, have sold their products at reasonable profits. But an entirely new set of conditions—new chemical raw materials and new chemical applications in farm practice—are rapidly changing the situation. Will fertilizers become a part of the chemical industry? What is the outlook in the old sales battle between maker and mixer? What will be the outcome of this transition period?

ONE after another, great industries—paper, ceramics, rubber, paint and varnish, textile, metallurgy—are becoming chemical to an extent undreamed even ten years ago. This sweeping advance of applied chemistry is one of the most significant developments of the post-war period.

Chemical progress is revolutionizing a score of industrial fields bordering on the strict domain of industrial chemistry. Apparently, no industry is secure. Certainly, any industry employing chemical raw materials is almost surely to be swept forward in the advance.

Modern chemistry lays violent hands on an industry. It is apt to bring to the manufacturer an entirely new set of raw materials. It completely upsets his established manufacturing processes. It opens up new sales fields and brings in new competitors. It changes the battle of business, as a gas attack, prepared by heavy artillery and supported by tanks, is different from the rush of painted savages against the defense of a log blockhouse. It demands new materials, new manufacturing processes, and new sales methods.

The American manufacturer of fertilizers stands today face to face with such changes. They may not be thrust upon him as rapidly as they have been, for example, in the paint and varnish industry; but unless all signs fail, these changes are going to be more fundamental than the introduction of rayon into the textile trade. It is high time, therefore, that the chemical industry and the fertilizer industry consider carefully the prospects of the near future. They concern both vitally.

Although serving the oldest industry in the world, agriculture, the manufacture of chemical fertilizers is one of our youngest industries. It was in 1830 that Chili nitrate made chemical nitrogen available for farm use. In May, 1842 the first patent was granted to J. B. Lawes, in England, for the manufacture of superphosphates. The output of potash from the Stassfur mines began in 1861. Nitrogen, phosphate, potash—the three basic chemical factors in plant food—are, in chemical form for farm use, all less than a hundred years old.

Within this short time, the whole fertilizer industry, as we know it, has been built up and, what is vastly more important, the whole modern science of soil fertility as applied on our farms has been developed. Although the growth of crops was one of the first discoveries made by our caveman ancestors, the oldest crop experiments, of which we have scientific records, those at Rothamsted, England, go back but sixty years.

In so short a time, supported with so little practical farming experience, it is perfectly natural that the chemical fertilizer industry has developed, up to the present time, little further than mixing those three primary chemical fertilizers. Among the farmers there is still a widespread, deep-rooted prejudice in favor of organic fertilizers; and it is but recently that the science of agronomy has collected sufficient data to discover the reasons for this prejudice and to supply material for successfully eradicating it.

There is no gainsaying that we have a real farm problem in America, and plainly this problem will become greater and greater as the soil fertility becomes less and less and the population increases more and more. Greater production at less cost is not going to be the only solution, but it will be the most permanent and profitable one. Along with the rapidly accumulating scientific knowledge of soil requirements for particular crops, there is going to be built up, through the wider, better education of the farmer, a logical demand for highly specialized chemical fertilizers. It is important to remember these facts, for the fertilizer manufacturer commonly discounts too heavily the conservation of the farmer and forgets his growing interest in true fertilizer costs and real crop values. Already the more progressive fertilizer men have learned the unwisdom of advocating a sort of gunshot fertilizer prescription for all kinds and conditions of soils to grow any crop. It is shortsighted to recommend one nitrogen fertilizer, for example, against all others for all purposes; and the best educational propaganda today is directed towards giving the farmer sound, scientific help to which the direct, individual sales appeal is subordinated. Constructive work of this kind reacts favorably to the benefit of all, while prejudiced advice, with an eye only to the immediate sales, hurts both the farmer and the manufacturer.

Already changes in raw material supplies are before the fertilizer industry.

Nitrogen from chemical sources is a market fact. Sulfate of ammonia consumption today exceeds that of nitrate of soda. American synthetic ammonia manufacturers have not, as yet, entered the fertilizer field because they have been exploiting those limited markets where the price is higher. However, our production of synthetic ammonia is vastly in excess of these requirements and must inevitably enter sooner or later into the fertilizer field. For manufacturing superphosphates a new electrical process has almost unheralded entered the field, and it is significant that one of the big chemical companies has found it profitable to turn its surplus sulfuric acid into the fertilizer field in the form of acid phosphate. These are all plain indications that the attention of the big chemical companies of America will be directed more and more to fertilizers. Four of the biggest of them now have close farm contacts through insecticides. And, as the fertilizer industry becomes more and more chemicalized, it will become a more and more attractive field for the chemical manufacturer to invade.

Already the largest chemical company in the world is developing a line of highly specialized fertilizers. The German I. G., starting with the foundation of synthetic ammonia at their Oppau works, near Ludwigshafen, and their Leuna works, near Merseburg, are manufacturing a variety of nitrogen-bearing salts deliberately and especially designed to fill successfully the requirements demanded by the results of disinterested agricultural research. They are producing not only sulfate of ammonia. They are also making synthetic nitrate of soda, calcium nitrate, and ammonia-sulfate-nitrate (Leuna saltpeter, and they claim to have made long strides towards the commercial, synthetic production of urea.

German Chemical Developments.

A sensible line of reasoning lies behind these chemical developments. They fit naturally into the program of manufacturing expansion as logical products of the synthetic ammonia group. They square with the advance of agricultural research, for the soil scientists in checking and comparing the effect of various fertilizers upon the growth of plant and upon the condition of soil are learning the effects of the repeated, continued use of various chemical plant foods. They know, for instance, pretty definitely the advantages and disadvantages of alkaline sodium nitrate and of acid ammonium sulfate. With calcium salts, mixed salts, and urea, the chemical manufacturer is undoubtedly endeavoring to build up a line of chemically produced fertilizer materials of such a variety that he can sell the farmer, with assurances of optimum results, definite chemical plant foods designed to meet every soil condition and for all common crops.

The Germans make no secret of this. They boast of it, and the results of experiment station research and scientific propaganda are already having effects on American agriculture. For fertilizer is becoming more and more a determining factor in the economics of crop production. Our farms are fast passing the stage where, by the aid of machinery and wholesale methods, we can profitably produce comparatively small yields on large acreage. Every decade brings us closer to the condition long existing in Europe where high yields and intensive methods only are profitable.

Another Chemical Invasion

Nor is it a secret that the German industry is carefully studying the American fertilizer situation. Even if they do not directly invade this market, the development of their highly specialized chemical fertilizers are bound to bring into the American fertilizer industry chemical processes and new chemical products. What will be the result when the industry passes over into the chemical manufacturing group?

One of the country's great agricultural chemists has furnished CHEMICAL MARKETS with an answer:

"The American fertilizer industry must appreciate," he said, "that the fertilizer of the very near future will cease to be a mixture of a few natural or simple chemical compounds. It will be a scientific plant food, the product of a manufacturing process, founded in chemical research and operated by chemical methods. If the industry does not see this, they are blind to facts as clear as sunlight. No industry can lag behind the demands of its customers and no industry can survive in the face of competition which meets those demands. High test, fertilizing compounds of chemical origin are as inevitable as tomorrow, and the American fertilizer manufacturer must adjust his methods to supply this demand."

Such an adjustment means radical change, but it is

(Continued on page 601)

What Do You Know About the Chemical Industry?

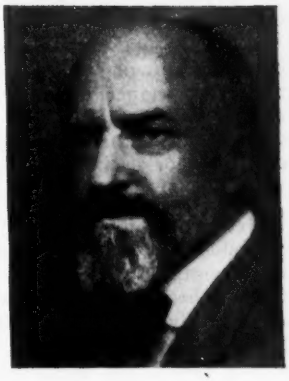
During the general popularity of "What Do You Know?" throughout the Country CHEMICAL MARKETS will publish a series of questions relative to the chemical industry.

1. Name three methods of making acetic acid now in use.
2. The price of what chemical has been cut to one-third of its former value due to the utilization of a by-product. Name the by-product.
3. Who is the president of American Chemical Society, American Institute of Chemical Engineers?
4. When and where will the next chemical exposition be held?
5. Under how many formulas can completely denatured alcohol be prepared?
6. What chemical manufacturing concern is named after a famous ship, and what one after the wife of the founder?
7. The picture and name of what chemical sales manager recently appeared on the cover of the Saturday Evening Post?
8. Who are these two men?

9. What large chemical combine was recently formed in England?
10. Under what three names is sodium sulfate sold?
11. What is the common name for magnesium sulfate, ammonium chloride, sodium carbonate?
12. What three important products are derived from wood distillation?
13. Who won the Perkins medal for 1927? The Nichols medal?
14. This country is fast becoming a world factor in acetone. Where does it come from?
15. The market for what imported coal tar crude has almost entirely disappeared within the past six months?
16. What chemical element, formerly avialable in a certain mineral, and in a by-product, is now the basis of a synthetic industry in every large country?
16. What two manufactured chemicals find their largest consumption as a result of the automobile?
17. The price of what important coal tar intermediate changed during 1926 for the first time since 1922?
18. What chemical manufacturers use the following brand names? Eagle-Thistle; Columbia; Amersol; Solox; Three Elephant; Polar; Wyandotte.
19. Who are the following? Orlando Webber; G. Lee Camp; Joseph Turner; John M. Weiss.
20. Are the following products generally regarded as major products or by-products (a) Salt cake (b) barium chloride, (c) benzene, (d) magnesium sulfate.

(Continued on page 540)

Chemists' Employment Contracts



A vital question in the chemical industry today as discussed by one who has thought the subject over very carefully and who expresses some highly interesting ideas

By Wm. M. Grosvenor

THIS subject of Chemists' Employment Contracts is far broader than first thought might indicate. Such contracts are examples of the evermultiplying relations between money on the one hand and creative skill on the other.

There is perhaps no human relation more vitally important to the progress of civilization than that between investor and inventor. On the inspiration and productiveness of the latter, quite as much as on the confidence and security of the former, depends the advance in the arts and sciences on which all progress is based. When our first arboreal ancestor lengthened his arm with a sharp pointed stick used at first as a dagger, then a lance, and finally a spear, invention began to prod man on to his conquest of natural resources and his creation of many resources for which nature failed to provide anything but the creative force.

The Mother of Invention

Necessity used to be the stern and uncompromising mother of invention. Invent or be punished by pain and death was the original patent law. Modern society has tempered rigors of aboriginal life and has been compelled to resort to the reward system in order to maintain progress. Our patent systems have more than realized their purpose. Poor and ineffective as they may be, they have stimulated progress beyond all measure or comprehension of their creators. Certainly the cumulative advance of the industrial arts and sciences in the last century is in large measures directly traceable to that measure of security in the right to intellectual property which patent systems, however imperfect, have given to men. That is one of the fundamental reasons for the vast importance of the contractual relation which ties employees, who may invent, to a legal entity called a corporation.

Human Reactions

Now dealings between an employee and employer, inevitably involve the variable elements of human nature. While these are as variable as the period of human longevity, certain of them are quite as definitely determinable in the average as an actuarial risk.

One such general rule is that fair treatment, personal consideration, and just reward of achievement beget loyalty. In connection with my work many ex-employees of corporations are sent me as prospective witness to technical operations involving possible questions of patent infringement or breach of contract. For example, the B. C. Company has always paid its men well, permitted such publication as was advisable over the author's own name, taken out patents in the workers' names, and tried to reward the inventors in some way. The president is a thoroughly human, hardworking employee of the corporation on a moderate salary, reaping his chief reward for his creative work, by the increment in the value of his stock and the regular dividends earned. When his company was accused of infringement, I questioned the likelihood of its being guilty. Three ex-employees were found who were familiar with the operations in question and I was asked to interview them. Though they had not then been working for the B. C. Co. for the last two to five years, no one of them would assist in the prosecution of this case. The reason given in all instances was that they had been so fairly treated by the Company that they did not believe it did unfair things and feared doing it an injustice.

Another Picture

On the other hand the W. X. Company is a typical "soulless corporation". Money-making and smart politics are characteristic of its official staff. It also was thought to infringe. Six or seven ex-employees were turned over to me to sift their technical testimony. Not only would they consent to advise and assist, they were willing and anxious to do so. They suggested other witnesses, combed their correspondence and notes for documentary proofs and gave every evidence of assuming that, if there were any way in which the corporation might have pulled something crooked ,it certainly would have done so, ought to be punished and they would be glad to help.

Some reasons for this difference are obvious. Others not quite so apparent may, perhaps, be more potent. Firm conviction of injustice, abstract as well as personal, cuts deep. One reason rarely considered is the force of habit and example. Throughout my contact with employees of one corporation after another; nothing is more surprising to me than the fidelity with which the employees who have grown up with an organization reflect as individuals the ethical and social habits of their officials and the Board of Directors. The image may be dim and distorted, but the reflection is there. In ninety-nine cases out of a hundred, what you

do to young employees will return to you with interest, if, as, and when opportunity permits.

Carefully analyzed this means that most men seek to be fair and will respond in kind, so that the thing of prime importance in human industrial relations is clear mutual understanding, i. e. the avoidance as far as possible of any unfair advantage or even the appearance of having or desired to take it.

Why a Standard Contract?

Herein lies the first and greatest reason for a fair, equitable, and if possible a standard form of employment contract approved by the experience of both parties. When first submitted for consideration, its effect is generally more than half accomplished before it has been even signed. Such understanding and confidence are of paramount importance in all business relations. Without clear understanding there can be little cooperation. Without confidence there can be little loyalty, and no security as to ideas or inventions.

Contracts which embody carefully concealed legal technicalities to be taken advantage of by corporation lawyers "should it seem necessary" are deliberately framed for misunderstanding. They are almost certain to rouse intuitive suspicion when presented for signature and later give corporate officers unfair advantages which are subtile temptations to the misuse of authority. Contracts which are manifestly unfair but which are forced upon an applicant or employee by taking advantage of his necessity, involve a drastic misuse of position and power that from the start make the employer an enemy. They establish the standard of force vs. trickery. Necessity alone compels his acceptance of a yoke that he wears with disgust and casts off with discouragement.

My feeling against such contracts is shame for the human hoggishness that struggles to wallow in the feeding trough.

Such drastic forms of contract are as foolish as Shylock's attempt to exact his pound of flesh. Though Portia is not always at hand, natural human reactions are.

Fair Contracts Necessary

On the other hand, the absence of a fair and equitable contract between employer and employee is almost as foolish as navigation without a chart. Human memory is neither "wax to receive nor marble to retain". Those who have much to do with litigation realize that it is almost the reverse. Men have testified under oath to the exact opposite of what their own experiments were at that moment showing before their eyes and have been astounded when it was pointed out.

Mutual good will and understanding are necessary to loyal, enthusiastic, productive effort on the one hand; and to appreciation, guidance, and support on the other. More particularly is this true where the peculiar creative effect and intangibility of intellectual property are concerned. Obviously Mr. Employer you can't search a man for an idea. It is absolutely his. It is the one case where possession is ten points of the actual law of nature, however justly you may feel, and however clearly the law of man may say that it belongs to you. It may really belong to you, and he may actually have it, and you may know that he has something up his sleeve; but no power of Court or Sheriff can, forcibly, separate him from it or even prove that he really has it. And the more you seek to enforce what may seem to the creator of this new idea to be an unjust and unfair rule of force, the more you are certain to warp his subjective view of things, exaggerate his idea of its value, dull his memory of your original understanding, induce suspicion of your motives and ability, and create fear of your most innocent act. The very imagination that makes him productively valuable makes him difficult, if not dangerous, to abuse.

Do not forget that potentially he is a part of yourself in the productive business sense and abuse of one's self doesn't pay. You can destroy the imagination with suspicion, discouragement and disgust; you can kill the goose that laid the golden eggs in the greedy effort to snatch away the first egg or two.

On the other hand you have it in your power to stimulate, guide, develop and perfect that productive imagination until your man literally lies awake nights and works himself to the bone to make and save you money; not merely because it will do the same for him, but also because he owes it to you as a part of the square deal you have dealt to him. Unless he can, he had better stay in trade, on the street, in the bank, or in the exploitation of natural resources. In productive industry he is apt to prove a "wrecker" not a "builder". In my humble opinion, we have before us today one or two glaring examples of the "moneymakers" corpse of what was once a healthy, progressive, chemical development.

What Employees Require

Now looking at the employment contract from the employee's side, what does he want to see frankly and clearly offered him?

In the first place, he sees that the salary which would be generously high for routine service might be grossly inadequate should he be fortunate enough to ring the bell with a worthwhile idea. The good man would gladly reduce the salary to be justly secured in the special reward.

Second, he sees that the most inspiring return for faithful loyal industry would be the assurance of sympathetic consideration of his ideas, a ready-prepared outlet for them if valuable to his employer, a clear title to them himself if not valuable to his employer, and an assured reward if they were adopted.

Third, he sees clearly that, if he is giving what his company is paying for, i. e. all of his best interest and thought, then the chances are that all discoveries or inventions he may make while employed by the company will be in some measure suggested by and related to the possible work or development of that company. Therefore he sees that the company is fairly entitled to a full confidential disclosure and a reasonable opportunity to accept and utilize the ideas.

He will feel, and the company official should clearly recognize, that the company must with reasonable promptness accept or decline, the tender of the invention but shall have the right to a reasonable period for examination, test and development before finally deciding to receive and pay, or to decline and fully release all claim to the idea.

Also he sees that he and others may perhaps devise twenty ways for the company to do the same thing and that only one way will probably be used, perhaps not the latest and best. Obviously he will not expect all to be used and paid for, yet he will recognize the company's right to retain them all in its own protection and he will be fairly well satisfied with some impartial appraised value of his invention, if it is merely held in reserve as protection against competition.

Research Publication Discussed

He will recognize that much of his work cannot be published lest it forewarn competitors as to the direction and extent of his company's interest and developments, but both he and the company officials should recognize that such articles as may properly be published should not come anonymously from the corporation laboratories, but be fairly credited to the man or men who did

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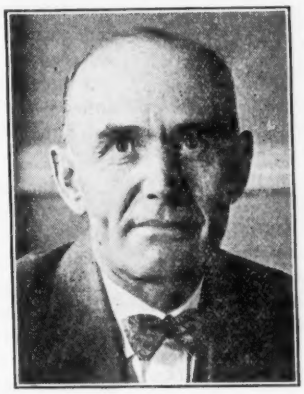
Agriculture and Chemistry

By WILLIAM M. JARDINE
Secretary of Agriculture

The very important connection between the chemical industry and the agricultural industry is fully realized by the Secretary of Agriculture who expresses his views here

MODERN scientific study of agriculture in America may be said to have begun with John P. Norton, who undertook his duties as first professor of agriculture chemistry at Yale in 1847. Professor Norton, after making a promising beginning, died at the early age of thirty. His plans were carried to fruition by his pupil, Samuel W. Johnson, who held the professorship of agricultural chemistry at Yale for forty years, from 1856 to 1896. Professor Johnson is recognized as the father of agricultural research in the United States. The work which he did in the fifties as chemist of the State Agricultural Society in the analysis of fertilizers "for the information and protection of farmers" and the exposure of frauds, attracted wide attention. As early as 1854 he advocated the establishment in this country of agricultural experiment stations and wrote: "What agriculture most needs is the establishment of its doctrines. If agriculturists would know, they must inquire. The knowledge they need belongs not to revelation but to science, and it must be sought as the philosopher seeks other scientific truth."



William M. Jardine

Due largely to Professor Johnson's efforts the Agricultural Experiment Station idea first took shape in the Connecticut Station, which began its career at Wesleyan University at Middletown in 1875. The success of the Connecticut Experiment Station led other States to follow. Doctor Johnson was active in developing a wider interest. Another movement which had an important bearing on the development of agricultural research was the establishment of the bureau, now the Department of Agriculture, and the land grant college system by congressional acts in 1862.

The Department of Agriculture from the beginning was planned to be a national research agency. It has been gradually developed along these lines until now it is the most extensive research agency of the kind in the world, expending for fundamental research bearing on agriculture in its larger aspects more than ten million dollars a year and employing more than a thousand trained investigators and in addition a corps of more than four thousand who assist in the work directly or indirectly.

In considering the interrelationships of prices, marketings, supply, plantings, breedings and other questions, there is being developed a scientific approach in order to obtain quantitive answers. We are no longer satisfied, for instance, with the knowledge that bumper crops depress prices, or that low priced feeds cause farmers to produce more livestock. We want to know the effect on price of a large crop (in dollars and cents), and the exact number of pounds or the number of head of meat animals which will be forthcoming as a result of given feed prices.

In working with these problems it has been necessary to devise new advanced statistical methods—an example of the application of methematics to agriculture. The reason that economists have not heretofore been able to express their observations quantitatively is that they have not been able to determine the conditions under which they made their observation. Unlike the chemists, they have not been able to take their problems into a laboratory to observe facts undisturbed by varying outside conditions. If, for example, they attempted to study the effect of the size of the domestic wheat crop on price, they were confronted by numerous complicating factors such as the production of other grain crops, the production of wheat in foreign countries, the changes in the general commodity price level and the fluctuations in business conditions. Now, however, by the use of correlation methods recently developed, these general factors can be isolated and their separate influences on each other measured.

It is no exaggeration to say that through the research accomplishments of recent years the average farmer today knows more of the science on which his industry rests, and brings it into constant application, than the scientist knew fifty years ago.

YET there remains much to be done. The agricultural field is full of problems, a large proportion of which depend for their solution on the effectiveness with which underlying problems in pure science are dealt with. American science, I am convinced, needs to concern itself more with fundamental research than it has done heretofore. No country in the world has made such progress in applied science, but our record in pure science is not so flattering. Since 1900, when the Nobel prizes in physics, chemistry, and medicine were inaugurated, 76 awards have been made. Of these, 24 went to Germany, 11 to England, 10 to France, 6 to the Netherlands, 5 to Sweden, 4 to the United States, 3 to Denmark, 3 to Switzerland, 2 each to Austria, Canada, Italy, and Russia, and 1 each to Belgium and Spain. On the basis of population, the Netherlands, Denmark, Sweden,

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Crystallization

ALMOST all chemical compounds, under proper conditions, will form themselves into geometric solids from their concentrated solutions. These geometric solids are always the same for the same compound and are called crystals. The process of recovering and separating them is called crystallization. The three chief accomplishments of crystallization are as follows:

1. Produces the substances in a solid form; increasing ease of transportation and preservation.
2. Greatly decreases weight of substance, and sometimes its bulk.
3. Produces a substance of much greater purity than the solution from which it was derived.

In general, the solubility of a substance in a liquid increases as the temperature of the liquid rises. When the boiling point of the liquid is reached, no more of the substance can be dissolved in it as the temperature cannot be increased beyond the boiling point. A liquid is said to be saturated when it will dissolve no more at boiling temperature.

If this liquid is allowed to cool, the substance dissolved in it will start to crystallize but in the prismatic form characteristic to that particular substance. This will continue until nearly all of the substance that was dissolved in the liquid has been recovered. That which is left dissolved in the mother liquor after the crystals have been drained off, can only be recovered by concentrating the mother liquor, and repeating the crystallizing process. Usually in commercial operations, this mother liquor is fed back into the system and is absorbed by the on-coming batches.

In this illustration, the physical and chemical laws of crystallization have been fulfilled in their natural sequence. However there are certain factors in crystallization that can be controlled, and the ultimate crystal considerably altered. For instance, the cooling temperature of the solution may be governed and the size of the crystal will be changed. Long slow cooling will build up large crystals, while rapid cooling with constant agitation of the liquid will produce fine crystals. Agitation of the liquid while crystallizing also tends to produce crystals of higher purity and is sometimes resorted to when solutions are very unpure. The degree of concentration of a liquid will also have a marked effect on crystallization. In fact, the automatic or mechanical crystallizers on the market are dependent upon some one or more of these factors for their working principle. The exact prismatic shape of the crystal can not be altered by any known means. Each chemical compound crystallizes in its own particular geometric group at all times and under all conditions. Measuring the geometric faces of crystals is one means of identifying a compound, and under the proper conditions is as dependable as a quantative analysis.

Besides converting substances from the liquid state to the solid for general convenience in handling, crystallization also acts as a means of purification. A compound, when it crystallizes, builds up layer after layer of pure molecules to form the crystal. The only chance for any impurities to become a part of the crystal is by minute quantities being trapped between the layers. Even from very impure mother liquors, crystals of surprising purity can be obtained. If such crystals are in turn dissolved in pure water and recrystallized; repeating the process several times, the final crystals are usual-

(Continued on page 586)

Applications of Manganese

ORES consisting mainly of the mineral rhodochrosite, having the formula $MnCO_3$ are thought to have considerable application in the utilization and recovery of certain products, particularly spent acids, acid fumes and vapors, nitrecake, etc. Of course waste acid liquors, escaping gases carrying traces of acid vapors too dilute to be worth saving by condensation, and other acid wastes, may be readily neutralized or caught by lime or limestone applied in the proper manner but this is only valuable to avoid nuisances and costs something as well, because the lime salts are not worth much if anything, as a rule.

Native manganese carbonate reacts with acids about the same as limestone, except in the case of sulfates when the action of the manganese carbonate is superior, and produces the corresponding manganese salts, which have some value and use and perhaps applications of much more importance than heretofore developed.

Manganese nitrate has the useful property, on drying and very gently heating, of splitting up into pure manganese dioxide and producing strong nitric vapors easily condensible to nitric acid. Hence, there seems to be an application for this ore as tower packing to absorb the last traces of nitric vapors now being lost in various chemical operations. Needless to say, the manganese product, is worth more than the cost of the ore.

Manganese chloride, has uses of course in the preparation of various manganese driers used in paints, but this use for the salt is not large. Anhydrous neutral or basic manganese chloride, if it could be made cheaply, or recovered as a byproduct, should make a capital addition for the openhearth steel furnace, as its reaction with the lime present would produce manganese oxide, and the calcium chloride resulting is desirable to thin the limy slag.

Manganese sulphate can be decomposed by heat similarly to the nitrate, but not so easily, and converted into sulfuric acid and manganese oxides, that would be desirable for metallurgical purposes.

Nitre cake is easily neutralized with maganese carbonate and on chilling the liquor, the sodium sulfate can be removed as Glaubers salt. This opens considerable possibilities in the utilization of nitre cake. Solvay Process plants throwing away calcium chloride would have a means of producing calcium sulfate and manganese chloride, from the manganese sulfate.

A further application would consist in decomposing manganese sulfate and sodium nitrate by crystallization, thus usefully recovering the sodium of the sodium nitrate, and on heating manganese nitrate, recovering the nitric acid, with a high grade manganese dioxide also recovered.

WHAT DO YOU KNOW?

(Continued from page 536)

21. Is there a plant in this country for the manufacture of cyanimid and where is it located?

22. Name four chemicals upon which the duty has been increased under the flexible tariff.

23. The radio has very largely expanded the use for what chemical product?

24. What manufactured chemical recently advanced very sharply in price due to speculators cornering the raw material?

25. What do the following stand for? U. S. P., E. B. G., A. C. S., B. A. S. F.

(Answers will be found on page 592)

TUNG OIL IN FLORIDA

At a time when the Chinese situation has again advanced the price of Chinawood or tung oil to unreasonable heights, an article on the developments of the production of this oil in the United States comes to our hands

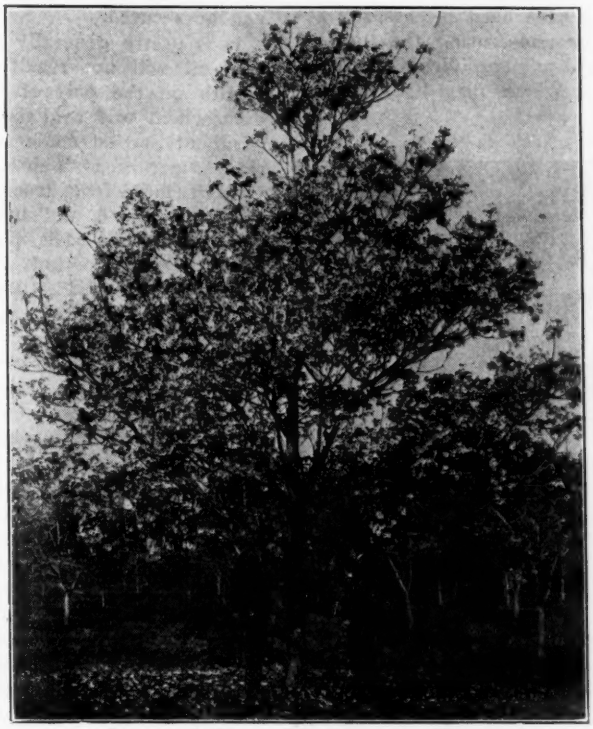
By Sam T. Fleming

Assistant to Director Agricultural Experiment Station Gainesville, Fla.

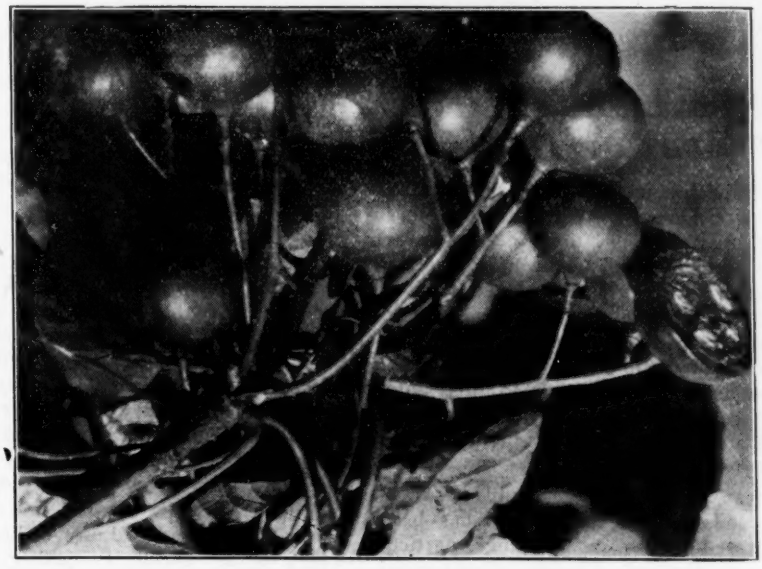
TWENTY five years ago the value of tung-oil to the paint and varnish industries of the United States was just beginning to be understood. Figures show that in 1925 this country imported 101,554,000 pounds of tung-oil during the year, with a value of $11,386,000. There is every indication that consumption of this oil in the United States will increase for years to come and that it is a product for which we have an established need.

Most everyone knows that all the oil used in this country is imported from China. A domestic supply oil would have several advantages, not the least of which would be that it could be kept free of adulterants, one of the chief sources of trouble with the Chinese product. Florida has made considerable progress in investigations and in experimental plantings of tung-oil trees which may prove to be the beginning of an industry which will eventually give us this domestic supply.

The tung-oil tree, *Aleurities fordi* was introduced into the United States through seed imported from China by the United States Department of Agriculture in 1905. The seeds were planted and the young trees distributed by the Department to co-operators in a number of States. We have a record of one of these trees which was planted by William H. Haynes at Tallahassee, Florida. This tree produced its first nuts, or seed, in 1908. In 1913 the same tree produced a bushel of shelled nuts which were sent to Mr. L. P. Nemzek, representing the Educational Bureau, Paint Manufacturers' Association of the United States, Gillsboro, New Jersey. From these nuts Mr. Nemzek produced 2.2 gallons of oil and this was probably the first tung-oil made from American-grown nuts.



Grove of Tung Oil Trees in Bloom



Ideal Cluster of Tung Oil Fruit. Halved Fruit Shows typical five-seed or Unit Development

The Florida Agricultural Experiment Station made plantings in 1912. Some of these died and were replaced in 1914. As these trees came into bearing, beginning in 1916, the seed were planted and, during later years, the Station was able to distribute a good many thousand trees as well as some seed to individuals over the State who were desirous of testing them. Additional plantings were also made on the Experiment Station farm, in connection with a number of investigations and experiments which were desirable.

The original trees planted by the Experiment Station grow upon a gentle south slope, on very sandy soil, have received no cultivation in recent years and, so far as known, have re-

ceived no fertilizer until recently, when applications were made to determine whether their yield could be increased thereby. Considerable variation in productivity is noted in the case of these trees. Some are consistently shy bearers, while others produce fair crops. One tree, particularly, has been a fairly heavy producer and the young trees grown from the seed of this tree show a somewhat different habit of growth from the seedlings of the remaining trees. These phenomena are interesting and point to two possibilities—first, there are likely to be strains within the species which are more productive than others; second, at least some of the characteristics of the parent tree seem to be transmitted to its seedling progeny. These possibilities are being carefully investigated by the Experiment Station and, as budding and grafting have been successfully accomplished on the Station grounds, using the tung-oil seedling as a root-stock, it will not be difficult to propagate any outstanding strains which may be found or developed.

Tree with 390 Fruit at 3½ Years from Planting

Experimental plantings on the Station grounds, from seed of these first trees, are now bearing and will, in the course of time, furnish some much-needed information on matters pertaining to fertilization, cultivation, pruning and other factors of production. Such diseases and insect pests as have been found attacking the tung-oil tree have, so far, proven of minor importance and are readily controlled. The root-knot nematode should be made an exception to this statement and precautions are necessary both against planting on infected land and against the introduction of the nematode on nursery stock or cover crops.

The tung-oil tree can be grown quite readily on most of the well-drained soils of the state. This has been pretty well demonstrated by various plantings, particularly in North and Central Florida. Commercial plantings, however, seem likely to be limited to those sections in which the danger of getting the bloom nipped by late frosts is negligible and to lands in those sections which can be purchased at a price which will justify their use for the purpose. These factors will probably locate the most extensive plantings on the lower-priced agricultural lands of Central and South Florida.

Little is known yet of the average yields which can be produced in Florida but experiments have gone far enough to indicate that they will not vary materially from yields in China. With a greater knowledge of cultural methods, fertilizer requirements, etc., it is possible, though not certain, that much larger yields will be secured. The propagation of productive strains will also have an important bearing on the yields which can be secured.

It is pretty generally realized that the production of tung-oil will not result in the rapid accumulation of wealth on the part of the growers. From the scant data which was available a year or two ago, the Experiment Station made a tentative estimate of probable returns per acre. This estimate was based upon actual yields secured from trees on the Station grounds over a two-year period and upon the approximate minimum price, American basis, paid for the oil during the preceding ten-year period. These figures indicated a gross annual return of $32.10 per acre, from which must be deducted the cost of expressing the oil and its transportation to consuming centers. These latter costs, however, are likely to be more than offset by the value of the "pomace" or residue remaining after the extraction of oil from the seed. This residue, while unfit for use as stock-feed, nevertheless possesses a fertilizing value about equivalent to that of castor pomace, with a usual commercial value of about $30.00 a ton.

It is also true that as cultivated acreages are now commencing to produce their first crops, the indications are that yields may be expected which will be in excess of the Experiment Station's earlier estimates which were, perforce, based on the performance of only a few trees. As the cost of bringing the grove into bearing, and of harvesting the crops, can be kept within very reasonable limits, this gross return per acre is sufficient to justify planting. It is, in fact, larger than the average gross return on any one of several staple crops and if the next few years demonstrate the accuracy of the Florida Experiment Station's early estimate, the average farmer will be interested in planting a grove. It can be cultivated in connection with his regular schedule of farm work and the nuts, which fall to the ground when mature, can be harvested during the winter months. He will thus have a cash crop which does not have to be planted each year, one which is non-perishable as far as harvesting is concerned, and one for which he seems certain to find a ready market.

The results of the work done at the Florida Experiment Station with the tung-oil tree were directly responsible for the organization of a company for the production of tung-oil in Florida upon a commercial scale. The stock in this company is held principally by paint and varnish manufacturers of the United States, about seventy in number. This company made an initial planting, near Gainesville, durig the winter of 1923-24, of about 270 acres and has increased its plantings from year to year since that date. Its first plantings are now coming into bearing nicely and an oil is being produced, by ordinary practical methods, which is of excellent quality. This company, the

(continued on page 601)

BRITAIN'S CHEMICALS

The progress of the British trade in chemistry is of first importance to American manufacturers and consumers of chemicals. The report to the Department of Commerce of operations during 1926 is extracted here.

By Homer S. Fox

Assistant Trade Commissioner, London.

BRITISH chemical trade as a whole did not suffer as severely from the coal strike and general industrial depression during the past year as did some other British industries. In certain lines, such as coal tar products, the effects of the coal strike were felt directly and severely. The dyestuffs industry has apparently felt some effects from the tendency toward extension of world productive capacity over consumption requirements, and some other chemical lines have considerably depressed during the last few months. There is generally an optimistic feeling in the various chemical industries of the United Kingdom regarding prospects for the current year, and if industry recovers as anticipated this optimism should be justified.

Imperial Chemical Industries (Ltd). was formally registered on December 4, 1926, with an authorized capital of £65,000,000 and an issued capital, provided all the shareholders of the constituent companies exchange their shares for shares of the new company of £56,802,996. The products include chemicals, dyes, paints, varnishes, drugs, pharmaceutical and toilet preparations, ammunition, fireworks, explosives for military, sporting, mining, or industrial purposes, pyrotechnic apparatus, gas mantles, weapons, missiles, manure, soap, paper, pulp, glass, bricks, pottery, sanitary and disinfecting preparations, coke, cement, artificial stone, fats, dips, sprays, fungicides, agricultural and fruit-growing remedies, cycles, motor cars, and aircraft. Among the concerns merged into the new company are waterproofers and manufacturers of rubber, leather, imitation leather, leather cloth, linoleum, tarpaulins, hospital sheetings and surgical bandages, cotton spinners, artificial-silk manufacturers, engineers, metal founders, owners of natural deposits of salt, brine, soda, kieselguhr, nitrates and other chemical substances, refiners and treaters of such substancces, owners of quarries and coal copper and other mines, and of oil deposits, fixers of atmospheric nitrogen by the synthetic ammonia or other process, manufacturers of electrical and wireless apparatus and electric lamps, owners of ships, wharves, docks, piers, tramways, railways and rolling stock.

The international, and particularly the imperial, aspect of this combination has been repeatedly emphasized, both by its officials and by others in close touch with the situation. As expressed by one leading chemical authority, whil ethere is as yet no evidence of any close international amalgamation between the British chemical group and similar groups in other countries, there can be little doubt that such will be only a matter of time. The greatest strength of the merger would appear to be in explosives, dyestuffs, and heavy chemicals.

British foreign trade showed a further decline in exports, both domestic and reexport, and an increase in the imports. There are two features of interest in connection with the foreign-trade statistics which may be considered as encouraging to the British chemical industry. The first is that the total exports of chemicals, drugs, dyes, and colors (including exports and reexports) declined only 9 per cent in 1926, as compared with a drop of 16 per cent in all merchandise exports. The second is that the 9 per cent decline in total exports is only slightly more than the corresponding decrease, amounting to 8 per cent in the 1925 exports as compared with 1924.

In other words, considering the exports over the past three years together, the decline in 1926 may be attributed only in part to the unfavorable consequences of the coal strikes, while in some branches, as in the soap industry, figures for which are not included in the above calculation, exports actually increased in both quantity and value over those for 1925. On the import side the increases may perhaps be more directly attributed to results of the coal strike, although it is claimed that the larger imports, in part at least, occurred in commodities indicating a development of the British industry rather than a shortage of these commodities as a result of the strike. Imports of turpentine rose from £1,470,486 (452,750 hundredweight) in 1924 to £1,765,475 (523,973 hundredweight) in 1925 and then fell back to £1,253,314 (418,569 hundredweight) in 1926.

Exports of industrial chemicals of British manufacture during the last three years are given in the following table:

Exports of Principal Industrial Chemicals of British Manufacture 1924-1926

Commodities	Hundredweight 1924	Hundredweight 1925	Hundredweight 1926
Sulphuric acid	31,219	26,579	72,458
Tartaric acid (including tartrates)	13,866	11,684	15,809
Ammonium chloride	77,080	60,220	66,160
Bleaching powder	296,881	354,693	389,897
Copper sulphate	809,100	818,820	756,420
Disinfectants, insecticides, etc.	416,643	424,182	404,555
Glycerine, crude and distilled	241,035	195,624	247,283
Potassium compounds	87,480	59,524	61,488
Sodium carbonate, including soda ash, and bicarbonate	6,108,030	5,510,534	4,565,565
Caustic soda	1,763,013	1,659,952	1,662,002
Sodium chromate and bichromate	55,659	38,646	32,870
Sodium sulphate and salt cake	1,461,976	1,501,943	1,241,059
Other sodium compounds	628,859	547,646	555,754

The industrial chemical branch of the British chemical industry is one that may be materially strengthened by the formation of Imperial Chemical Industries (Ltd.), and the ability of domestic manufacturers to supply the domestic market should be increased. Dometic demand

Kingdom is understood to be in the manufacture of superphosphates and ammonium sulphate, and the unsatisfactory position of these industries during the year has reacted on the sulphuric acid situation. Increasing production of synthetic ammonium sulphate, which does not require the use of sulphuric acid, is another factor tending to depress acid trade, as has also been the position of the iron and steel industries. Sulphuric acid exports in 1926, however, were nearly three times as large as in the preceding year, although the value increased by only about 60 per cent.

Glycerin exports, after a material decline in 1925, increased sharply in 1926 to a quantity even larger than the 1924 shipments, while the relatively small imports showed little change.

A plant is understood to be in course of erection by the United Alkali Co. for early manufacture of nitric acid from atmospheric nitrogen.

Consumption of industrial alcohol in the United Kingdom continues to increase steadily, requirements for the fiscal year ended March 31, 1926, having been 4,180,000 imperial gallons (of "industrial methylated spirit"), representing an 18 per cent increase over the preceding year. The use of pure alcohol in arts and manufactures also shows a steady growth. Some investigations are under way with regard to the use of substitutes for ethyl alcohol, such as isopropyl alcohol, in cheaper perfumes.

There was some improvement manifest during the latter part of 1926 in arsenic, and quotations at the mine for white arsenic from Cornwall, advanced appreciably. This improved position, with a generally better outlook from the standpoint of the trade than at any time since 1924, has been brought about largely by restricted mine operations and the resultant liquidation of producers' stocks.

Coal-tar products were severely affected by the coal strike, and a serious situation arose in the case of such products as benzol and pitch, with supplies scarce and prices at extremely high levels. Exports of a number of these products have held up remarkably well, however, and shipments of benzol and toluol amounting to £37,583 (420,980) gallons were three times as large in 1926 as in 1925, but only one-third of the 1924 shipments. Exports of other coal-tar products remained fairly steady, with, however, a decline in coal-tar oil, creosote oil, etc., the largest item in the broup, amounting to £1,092,631 (35,287,626 gallons) in 1926. Imports of coal-tar products (except dyestuffs) increased to £1,635,760, about three times the 1925 figure.

While no figures are available covering the production of British dyestuffs in 1926, the recently issued statistics for 1925 are interesting as showing certain trends which probably continued during the succeeding year. The total output of dyestuffs in Great Britain in 1925 (excluding that of a few smaller firms not reporting) amounted to 32,693,402 pounds, a decline of 549,302 pounds, or about 1½ per cent, from the corresponding 1924 figure, and was about 300,000 pounds below that for 1923. The principal decline was in the production of sulphur blacks, but lower outputs were also recorded in sulphur reds and yellows, direct cotton colors, acid wool colors, and chrome and mordant colors. There was a general increase in the output of basic colors, chiefly in basic blacks, and also in sulphur blues, browns, and yellows.

The most important progress, however, appears to have been made in the production of vat colors, and this seems to be regarded in the trade as an indication of encouraging progress in the development of the Bri-

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Who's Who in the Chemical Industry

John Breckenridge, Chief Chemist, American Agricultural Chemical Co., Carteret, N. J. Born: Palmer, Mass., May 4, 1873. Married: Amanda G. Edgar, Woodbridge, N. J., Oct. 26, 1898. Children: two daughters. Education: Yale, 1896. Business: Entered fertilizer business Sept. 1, 1896; with American Agricultural Chemical Co. since organized, and in the industry over 30 years. Public record: Mayor of Woodbridge, one term. Member: Rotary Club, American Chemical Society, Elder, Presbyterian Church. Hobbies: Golf, tennis and bowling.

Ferdinand F. Buhner, president, Buhner Fertilizer Co., Seymour, Ind. Born: Seymour, Ind., Nov. 1, 1874. Married: Mary Eggerman Seymour, Ind., Aug. 25, 1899. Children: four. Business: Organized company and incorporated it in 1922. Hobbies: Hunting and fishing.

Willard Henry Dow, ass't. gen. mgr. and dir., Dow Chemical Co., Midland, Mich. Born: Midland, Mich., Jan. 4, 1897. Educat.: B. S., Ch. E. Univ. of Michigan. Mar.: Martha L. Pratt, Sept. 3, 1921 at Midland, Mich. Children: daughter. Mem: Amer. Chem. Soc.; Alpha Chi Sigma; Theta Delta Chi; 32nd degree Mason.

George W. Henry, pres. and gen. mgr., Alliance Fertilizer Co., Alliance, Ohio. Born: Hanoverton, Ohio, May 18, 1856. Educat.: B. Ph., 1876, Mt. Union College, Mar.: Olive Williams, Elkton, Ohio, Nov. 2, 1877. Children; four. Bus.: Secy. and gen. mgr., Alliance Fertilizer Co. 35 yrs. Public Record: Supt. of Schools in Ohio, 1874-1893. Mem.: Masonic Order, Alliance Bd. of Education; Civil Service Commission. Hobbies: Music, history and poetry.

Elijah Cubberly Hutchinson, secy. & treas., Trenton Bone Fertilizer Co., Trenton, N. J. Born: Windsor, N. J., Aug. 7, 1855. Educat.: Common school and bus. col. Mar.: Ella D. Stultz, (deceased) Nov. 22, 1876; Ella C. Stultz, June 11, 1922. Children: 4 sons. Bus.: Organized Trenton Bone Fertilizer Co., 30 years ago. Public Record: Township clerk; assemblyman, 2 years; state senator, 6 years; State road commissioner, 3 years; congressman, 8 years. Mem.: Masons, Odd Fellows, Rotarians, dir. Broad St. National Bank & Mercer Trust Co. Hobbies: Fishing & gunning.

Louis Dixon Kemmerer, pres., Waldo Fertilizer Co., Waldo, Ark. Born: Ackley, Iowa, July 2, 1871. Educat.: L. L. B. State Univ. of Iowa, Mar.: Ora Warnock, Magnolia, Ark., Apr. 30, 1902. Children: 2 daughters. Bus.: Pres. National Vehicle Co., Grinnell, Iowa; mgr., Ouachita Cotton Oil Co., Camden, Ark.; pres., Waldo Fertilizer Co. Public Record: Mayor of Grinnell, Iowa. Mem.: Masons, Elks, K. of P.

Edgar Hamilton Middlebrooks, owner, Middlebrooks Bros., Macon, Ga., Born; Round Oak, Ga., Nov. 3, 1879. Mar.: Jane Williams, Macon, 1904. Children: 3 sons. Bus.: Organized Middlebrooks Bros., in 1902, operating through central Georgia in extensive way since that time.

Robert M. Simpson, Analytical and Consulting Chemist, Charles W. Rice & Co., Columbia, S. C. Born: Richburg, S. C., Feb. 28, 1887. Education: B. S., Clemson Agricultural College. Business: State Chemical Laboratory, 1911-1920; Charles W. Rice & Co., 1920 to date. Member: Masons, Shriner, Kiwanis Club.

New Dyes For Acetate Silk

WHEN cellulose acetate was first introduced as a synthetic fiber, ft was found that while it had excellent properties from various standpoints, its use was nevertheless surrounded with serious difficulty due to the special problems that arose in its dyeing and printing. It was clearly demonstrated that cellulose acetate was a fiber quite different from other synthetic fibers, such as nitro rayon, cuprammonium rayon and viscose rayon, and in fact different from all other textile fibers, cotton, wool, silk, etc., as well. It stood entirely in a class by itself, due principally to its very peculiar dyeing properties. Various methods were then devised for the dyeing of this new product. Dye manufacturers began to give the problem their attention, and there were soon developed special dyestuffs that were intended only for the purpose of dyeing and printing the cellulose acetate fiber and fabric.

A new series of dyestuffs has just been announced as being ready for the market by the I. G. Farbenindustrie A. G., of Frankfort-on-Main, Germany, whose American representative is General Dyestuffs Co., New York. These new colors are called Cellite fast colors, Celliton and Celliton fast colors, Cellitazols on acetate rayon either in the skein or piece form.

The Celliton or Celliton fast colors can be used both for uni-tone dyeing and also for dyeing mixed shades. They are dyestuffs insoluable in water and are marketed in the state of fine powders. These dyestuffs are eminently suited for dyeing the cellulose acetate fiber and when used on mixtures of cotton and acetate rayon, they will leave the cotton portion of the fabric untouched. They are also largely applicable to dyeing fabrics which contain animal fibers as well as the acetate fiber and give satisfactory results on them. The Celliton colors are resistant to light, while the Celliton fast colors are particularly fast to light.

The Cellit colors are used alone or in a mixture with one another. They are also dyestuffs insoluable in water and are marketed in the form of fine powders. They give uniform shades on acetate rayon and their light resisting properties are ranked as good to very good. They dye cotton for the most part to a very slight extent only and are not fast to soaping. They can generally be employed for producing effects in mixed fabrics which contain cotton and cellulose acetate. They are however not suited for dyeing mixed fabrics which contain both the acetate rayon and animal fibers.

The Cellitazols are developed dyestuffs for acetate rayon. They are able to withstand the cross-dyeing process as a general rule. The first process by which these dyestuffs are applied to the fiber is concerned with the dyeing with Cellit fast colors. The Cellit fast colors dissolve in hot water to give a clear solution and then twenty to fifty per cent of calcined Glauber's salt is added. Ammonium chloride (sal ammoniac) can also be employed for this purpose, and the proportion of the salt used varies in accordance with the depth of the desired shade. The dyeing lasts for one half to one hour at a temperature of 60 to 70 degrees C. and is commenced in a lukewarm solution when dyeing lighter shades on the cellulose acetate fiber. Cellit fast yellow R yields a shade which is somewhat redder after brightening with acid.

When Cellit fast yellow GGN is employed, it is advantageous to add from three to five per cent of acetic acid of six degrees Be concentration (thirty per cent acid) to the color liquor in addition to twenty to thirty per cent of Glauber's salt. It is also possible to carry out the dyeing process with the other Cellit fast colors with the presence of acetic acid in the color bath.

Cellit colors are well suited for dyeing mixtures of cotton and acetate rayon or of acetate rayon and other rayons either in uni-tones or in two color effects. The Cellit colors are thus employed for this purpose in a single bath and this applies to the uni-tone dyeing as well as the two color effect dyeing.

The two color effect and uni-tone dyeing is carried out in liquors which contain definite proportions of Glauber's salt. These liquors will also contain various members of the substantive series of colors which will dye the cotton or rayon portion of the fabric and leave the cellulose acetate in the pure white state.

The second dyeing process is concerned with the use of Celliton and Celliton fast colors. The colors, which are found in the state of a paste, are diluted with water at the ordinary temperature with vigorous agitation, and then added to the color liquor after being forced through a fine meshed screen. Celliton blue B is carefully made into the paste form by gradual addition of cold water and then the formed paste is used in the same manner as the rest of the dyestuffs.

Dyeing of the cellulose acetate is best accomplished in a dye liquor which contains the easily foam-forming Marseilles soap. The concentration of the soap in the liquor should be approximately two or three grams per liter. This varies in accordance with the depth of shade that it is desired to produce on the acetate fiber. The dyeing last from half an hour to one hour and the temperature is maintained at 60 to 70 degrees C. It is started with the liquor in the warm condition in dyeing lighter shades. At the end of the dyeing the goods are washed and then subjected to an acid brightening treatment in the usual manner.

TURKEY red oil, Monople brilliant oil or similar oil compositions can be used in the place of Marseilles soap. It has been found that fabrics which are dyed with Celliton and the Celliton fast colors will stand up against the acid brightening liquor without suffering any change in color. Celliton fast yellow R is not intended for dyeing standard shades on the cellulose acetate fiber but is employed only as a toning shade.

The Celliton or the Celliton fast colors, when used in dyeing mixed fabrics containing either cotton and acetate rayon or rayons and cellulose acetate, will not color the cotton or rayon portion of the fabric, and they are therefore very well suited for producing multi-tone effects by the single color bath method of dyeing. They are also well suited for obtaining uni-tones on mixed fabrics by the single bath method. The dyeing is carried out in liquors which contain soap and Glauber's salt and also such substantive colors which will dye the

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The Lesson of the British Consolidation

The original proposer of the Synthetic Organic Chemical Manufacturers Association and a former advertising manager of National Aniline & Chemical Co., traces the history of big business in this country from the seller's market of the "trust" days, down to the buyer's market of Sherman Act days.

By H. Gardiner McKerrow

THE recent consolidation of chemical interests in Great Britain contains a warning and an example for this country which we should do well to consider. Some years ago, under the aegis of Theodore Roosevelt, we were enthusiastically engaged in the popular pastime of "trust-busting" and the pursuit of "malefactors of great wealth." We were then approaching the end,—although we did not then realize that it was the end,—of that period of our industrial history wherein the supply of all kinds of manufactured products lagged behind the market demands; it had, up to then, always been a seller's market.

The factors of chief importance in this long period of industrial growth had always been the financier and the production manager. It was during that period,—practically the whole of the nineteenth century,—that the great American principle of mass production came into being. Our manufactures increased enormously; new industries were born; the protective doctrine for the safeguarding of our own unsatisfied markets came to be the fundamental principle of American political belief. Except for an inconsiderable body of Free Traders, mostly academic and theoretical, crying, intermittently, in the wilderness, it was the faith of both parties, the one claiming protection for revenue only, and the other frankly committed to the principle of protection to the point of exclusion of foreign goods.

A few years before the outbreak of the great war there grew up a feeling of uneasiness in some industries; there were times when there appeared to be more goods on hand than our own markets could absorb; periods of trade stagnation occurred, and a new and active interest in the possibility of developing foreign markets came into evidence. Combinations of manufacturing interests for the purpose of controlling prices and eliminating ruinous competition appeared, and the American Trust, organized not for the purpose of regulating manufactures but for maintaining prices, was born. To regulate this tendency the Sherman and Clayton acts were conceived in order that the public might not be made the helpless victim of a rapidly growing abuse; and under that control we still exist today.

Then the world war broke upon us; a vast demand for our goods taxed the manufacturing capabilities of our factories in all directions; new plants were built and old ones were doubled and trebled in size; a great foreign trade was literally forced upon us as the older nations of the world, locked in a stupendous death struggle, found themselves unable to care for their overseas markets; and we behaved as if this was a condition which would always continue.

And then the struggle ceased as suddenly as it began, and the world slowly returned to normal conditions. Great Britain, France and Germany became earnestly engaged in recovering their lost markets; their shipping was again seen on 'the seven seas' and their travellers once more went out into the world to tie up the broken threads of their international commerce.

Our new foreign trade shrunk almost overnight to a mere percentage of what it had been during the factitious period of the war, and we found ourselves in the possession of enormous manufacturing facilities which our own domestic markets could not possibly utilize and the products of which they could not possibly absorb. It became a buyer's market; new salesmanship was called for; it was no longer a question of apportioning goods and mere order taking, but of high pressure selling; and this is the condition which confronts us today.

Today there is need of trade combinations, not so much for the purpose of controlling prices as of controlling manufactures. We are confronting an entirely different economic condition, the existence of which has been farsightedly recognized by Germany in the legalizing of the cartel system; and which Great Britain has now partially met by the recent consolidation of chemical interests. New methods of distribution have come into existence; the old flow of merchandise from the manufacturer to the wholesaler, and the wholesaler to the consumer has been disturbed and is being diverted into new channels.

The present chemical industry is the newest member of our family of great industries, and already there are signs that its growth is becoming unbalanced, and that the lack of a centralized control is leading to undue development and profit destroying competition in some directions, while essential activities are being neglected in others.

In the dyestuff section the situation has already reached a point where there is but little profit for anybody. There is in the world today dye making equipment sufficient to supply four times the amount of dyestuffs which the normal demand can use, and were it not for the protective tariff with which the industry in this country was safeguarded there is little doubt that we should relapse into the condition which prevailed before the war, and our coal-tar dye industry would fall into desuetude. And yet it was sufficiently shown during the war period that the coal-tar dye industry is an essential basic industry indispensable to the well-being of any commercial country, not only in times of peace, but still more so in times of war.

The Cotton industry, perhaps, affords the most instruc

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[News and Markets Section]

Lower Dye Prices Due to Competition

Reduction in the Tariff Fails to Affect Domestic Production—Output of Vat Dyes Almost Doubled—Imports Declined in Quantity and Value—Production and Sales of Synthetic Organic Chemicals—New Colors of High Fastness Produced

Preliminary figures compiled by United States Tariff Commission show a domestic production of coal-tar dyes for the calendar year 1926 at about 88,000,000 pounds, with a value of about $37,000,000. This is an increase of 2 per cent by quantity over 1925. Total sales of dyes in 1926 were about 86,200,000 pounds, valued at $36,300,000. This is an increase of 8.7 per cent by quantity and decrease of 3 per cent in total value compared with 1925. The increase in volume of sales is largely due to slight improvement in the textile industry. Exports by quantity show practically no change from 1925.

Developments from year to year since 1917 in domestic manufacture of dyes and other finished coal-tar products are unparalleled in the history of the American chemical industry. In 1926 there was notable progress in the manufacture of specialty and fast dyes. Many new colors of high fastness were produced for the first time in this country during that year.

Production of vat dyes established a new record in 1926, with total of over 4,000,000 pounds compared with 2,600,000 pounds in 1925. None of these dyes was made in the United States prior to the World War. This class of dyes is used largely on cotton and yields shades of exceptional fastness. The increase in domestic production is of interest to every consumer of fabrics as indicative of the pronounced trend toward a greater use of fast dyes for "fast dyed" fabrics.

One of the outstanding features of the year was the continued decline in dye prices, which was due to the severe competition between domestic manufacturers.

Imports of dyes in 1926 recorded a decline which was 12.4 per cent by quantity and 14.4 per cent by value from the previous year. Imported dyes which supplied about 7 per cent by quantity of our consumption are very largely the higher cost types imported from Germany and Switzerland. Exports of dyes recorded practically no change in quantity, but a decline of 11 per cent by value from 1925.

Domestic Production and Sales of Coal-Tar Dyes

Year	Production Quantity Pounds	Sales Quantity Pounds	Sales Value
1926	88,000,000	86,268,000	$36,312,000
1925	85,345,438	79,303,451	37,468,332
1924	8,679,000	64,961,433	35,012,400
1923	93,667,524	86,567,446	47,223,161
1922	64,632,187	69,107,105	41,453,790
1921	39,008,690	47,513,762	39,283,956
1920	88,263,776	.....	.....
1914	6,619,729	.....	.....

Price recessions were recorded for both low and high priced dyes. Indigo, the leading color manufactured in this country shows an average sales price of 12.8 cents per pound in 1926 compared with 15.6 cents in 1925, and $1.42 per pound in 1917, when the first indigo was produced in the United States. This is below the pre-war price when our entire supply was imported from Germany and Switzerland.

The weighted average price of all domestic dyes sold in 1926 was 10 per cent less than the average of 1925. The following table shows the trend of the average prices of domestic coal-tar dyes in recent years.

Year	Weighted average *sales price domestic dyes (per pound)
1926	$0.42
1925	.466
1924	.54
1923	.545
1922	.60
1921	.83
1920	.99
1917	1.26

*Total value of all dyes divided by the total quantity.

Imports of dyes during 1926 were 4,658,464 pounds, with an invoice value of $4,101,252. This represents a decrease of 12.4 per cent by quantity and 14.4 per cent by value from 1925. Total imports in 1914, when our consumption was very largely supplied by imports, amounted to 45,950,895 pounds. Since Sept. 22, 1924, when

Imports of Coal-Tar Dyes

Period	Quantity Pounds	Invoice Value	Monthly Average Quantity Pounds	Monthly Average Value
1927 (3 months)	913,611	$ 801,165	304,537	$267,055
1926	4,658,464	4,101,252	388,205	341,771
1925	5,315,158	4,791,908	442,930	399,326
1924—first 9 months	1,611,931	1,642,632	179,103	182,515
last 3 months	1,410,608	1,266,146	470,203	422,049
Total	3,022,539	2,908,778	251,878	242,398
1923	3,098,193	3,151,363	258,153	262,614
1922	3,982,631	5,243,257	338,850	436,838
1921	4,252,911	5,156,779	354,409	429,732
1920	3,402,582	5,763,437	283,548	480,286

Preliminary Summary of Production and Sales of Coal-Tar Products, 1926

Name of product	Sales Quantity Pounds	Sales Value	Production Quantity Pounds
Finished products:			
Dyes	86,268,000	$36,312,000	87,991,000
Color lakes	11,425,000	6,023,000	11,796,000
Photographic chemicals	387,000	505,000	393,000
Medicinals	3,575,000	6,687,000	3,679,000
Flavors	2,629,000	1,482,000	2,858,000
Perfumes	1,678,000	750,000	1,870,000
Synthetic tanning materials and synthetic phenol resins	14,325,000	7,647,000	14,107,000
Total	120,287,000	$59,406,000	122,694,000

Preliminary Report of Production and Sales of Synthetic Organic Chemicals, 1926 (Non-Coal-Tar Origin)

Name of product	Sales Quantity Pounds	Sales Value	Production Quantity Pounds
Amyl acetate and sec. amyl acetate	1,873,100	$535,800	2,702,000
Butyl acetate	7,832,200	1,591,500	5,216,700
Carbon tetrachloride	16,010,200	967,100	18,998,800
Ethyl acetate	32,180,500	2,966,800	43,661,400
Ethyl ether USP	4,760,900	1,392,000	5,896,000
Ethyl nitrite	30,720	22,830	36,190
Formaldehyde	22,552,200	2,050,900	31,953,200
Gallic acid USP and technical	93,839	65,348	573,800
Hexamethylenetetramine	.....	.....	1,495,200

the ad valorem duty on dyes and other finished coal-tar products was reduced from 60 to 45 per cent ad valorem, there has been an increase in the imports, particularly of the vat dyes, certain acid, acid alizarin, and other high cost specialty types, which have been almost entirely of German and Swiss manufacture.

Imports of coal-tar dyes in 1926 were 5.2 per cent of the total production by quantity and 11 per cent by value. They were by quantity over 7 per cent of the apparent consumption, assuming this to be equivalent to production plus imports, minus exports. Dyes manufactured in the United States based on preliminary figures, accordingly supplied about 93 per cent of apparent consumption by quantity. By value, however, domestic production would be considerably less than 93 per cent of consumption, as the average price of the dyes imported is much higher than the average price of domestic. There was an exportable surplus of certain dyes, including indigo and sulphur black.

Total exports of coal-tar dyes in 1926 were 25,811,941 pounds, valued at $5,950,159. This represents a slight increase in quantity, but a decline of 11 per cent by value from 1925. The drop in value is due to the gradual lowering of prices in the world's export markets which has resulted from the severe competition offered by German and Swiss dyes.

Domestic Exports of Dyes

	Quantity Pounds	Value
1920	.....	$29,823,591
1921	.....	6,270,139
1922	8,344,187	3,996,443
1923	17,924,200	5,565,267
1924	15,713,428	5,636,244
1925	25,799,889	6,694,360
1926	25,811,941	5,950,159

Gasvararbeitungs G.m.b.H. ("Gaveg") has been formed in Germany to exploit the Mont-Cenis process of nitrogen fixation with capital of 10,000 marks, 6,000 of which are held by Mont-Cenis and 4,000 by Bergwerkschaft Hibernia. The new company, which is a constructional and operating concern, is to build a nitrogen-fixation plant at Sodingen to be finished this year, and also a similar plant at the Shamrock mine of A.-G. Hibernia.

Para Paint & Varnish Co. Cleveland, has started an advertising campaign in farm papers to sell paint by mail and through agents. The account has been placed with Oliver M. Byerly, Cleveland advertising agency.

SULFATE LIQUOR USES

In Sweden with its large production of sulfite cellulose it is an ever-pressing problem to find profitable use for waste sulfite liquor. Many factories have long had plants for working the waste liquor, by fermentation and distillation of "sulfite spirit," or by concentrating the liquor by evaporation, or both. But the marketing of the spirit and the concentrated liquor has long been a difficult problem. The consumption of the new motor fuel "Laettbentyl" containing 25 per cent of sulfite spirit mixed with 75 per cent of ordinary petrol is rapidly increasing, and several plants have installed the necessary plant for manufacturing 99.5 per cent alcohol, this percentage being required for obtaining completely stable benzene-alcohol mixtures. The Evaporated sulfite liquor is also finding an increasing use as a dust-binding material for macadam roads.

Sicilian sulfur industry in 1926 showed less favorable conditions than in 1925. Production for the fiscal year of Sulfur Consortium which ended July 31, 1926, amounted to only 202,856 tons compared with 223,604 tons in the previous fiscal year. Deliveries aggregated 221,386 tons in 1925-26, while in the previous fiscal year they amounted to 292,222 tons.

BRITISH PITCH DECLINES

Demand for chemicals in England is moderate and the trade is steady, according to Commercial Attache W. L. Cooper, London. In practically all sections prices are firm and generally unchanged. There has been a sharp decline in pitch prices which now range between 70 and 80 shillings a ton f.o.b. east coast of England and poor business is the chief factor in coal-tar products. Naval stores trade is fair but the market weak, especially in turpentine. Deliveries of turpentine from the beginning of 1927 through March have been about 6 per cent above last year levels. Key industry duty has been removed in the case of acetone and oxalic acid.

Amtorg Trading Corp., New York, says recent explorations for potash in the Solikamsk region of Soviet Union indicated that in the explored area of seventeen square kilometers 190,000,000 metric tons of potash could be mined. Deposits of the whole region are estimated at a billion and a half metric tons. Deposits of sulfur discovered in the Kara-Kum desert in Central Asia, during the recent expedition organized by Prof. Fersman of Russian Academy of Sciences, are estimated by Prof. Fersman at nearly one million metric tons.

MARCH DYE IMPORTS LARGEST THIS YEAR

Total 404,714 Pounds, Valued at $352,414 Compared with 312,277 Pounds in February and 196,620 Pounds in January—Chemical Divisions Report on Dyes and Intermediates Remaining In Bonded Warehouse Each Month Since July, 1926—Imports of Color Lakes Increasing

Dye imports during March amounted to 464,714 pounds, valued at $352,414. Imports for three months, as reported by the chemical division of Bureau of Foreign and Domestic Commerce and U. S. Tariff Commission were

	1927		1926	
	Pounds	Invoice Value	Pounds	Invoice Value
January	196,620	$186,387	300,441	$283,635
February	312,277	262,364	369,045	377,638
March	404,714	352,414	487,804	435,891
Total 3 months	913,611	$801,165	1,157,290	$1,097,164

The five leading dyes by quantity, imported during March were: Ciba red R paste, 31,524 pounds; Vat yellow G double paste (single strength), 11,938 pounds; Ciba violet B powder (single strength), 11,020 pounds; Erioglaucine, 10,471 pounds; Purpurine, 10,000 pounds.

Color lakes imported in March amounted to 4,868 pounds, value $3,241, compared with 1,000 pounds in January, valued at $731. There were no imports of color lakes in February.

Bonded Customs Warehouses

Date	Dyes and Colors Pounds	Intermediates Pounds
July 31, 1926	512,186	781,796
Aug. 31, 1926	557,852	690,031
Sept. 30, 1926	395,535	590,520
Oct. 31, 1926	281,320	557,257
Nov. 30, 1926	303,321	539,561
Dec. 31, 1926	360,488	562,536
Jan. 31, 1927	615,542	647,692
Feb. 28, 1927	896,059	719,055

Per Cent of Dyes by Country of Shipment

Country	Mar., 1927	Feb., 1927	Jan., 1927
Germany	40	49.5	37
Switzerland	42	33.9	34
Belgium	4	4.9	11
England	7	4.6	7
France	3	1.3	7
Italy	2	0.3	3
Canada	2	5.3	1
Holland	—	0.2	—

URGES USE OF NITRATE

Sir Arthur Goldfinch, delegate general for Europe of the Chilean Nitrate Committee said that the United States need have no fear that exporting farm produce would be discontinued within a few years, as predicted by President Coolidge in 1924, if the American farmers would follow the example of the European and learn the use of nitrate of soda.

"It seems strange that while the Egyptian peasant growing a corn crop on the banks of the Nile uses nitrate of soda and doubles his crop by doing so the highly educated American farmer is content to grow corn without applying nitrate," said Sir Arthur.

The Argentine Ministry of Hacienda has ruled that sulfate of aluminum as raw material for the manufacture of paper may be imported under item 63 of the customs tariff at a duty of 5 per cent on a fixed official valuation of 0.096 peso per kilo, according to Assistant Commercial Attache H. B. MacKenzie, Buenos Aires. This ruling exempts sulfate of aluminum from the increased valuation established for pure chemical products by the Ministerial ruling of February 28,-1918, which provided that the official customs valuation on these chemicals should be increased by 100 per cent; and also from the surtax of 7 per cent ad valorem established by Article 8 of the customs law of 1923 on all products dutiable at more than 20 per cent of their values.

Interests related to Standard Wholesale Phosphate Co., (George A. Whiting, president), Baltimore, are said to contemplate construction of a direct contact acid plant. The new company is to have a capital stock of $1,000,000 all in common shares, and is said to have selected a site with direct railroad connection and facilities for making delivery by water. Promoters of the undertaking will be large consumers of the new corporation's product.

Corn Products Refining is expected to show approximately the same earnings for the first quarter of 1927 as for the same period in 1926 when 90 cents per share was earned.

Net earnings of Hawley Pulp and and Paper Co. for the last six months of 1926, after depreciation and Federal taxes, aggregated $285,093.

Foreign Potash Trust Sued By U. S.

French and German Producers Accused Of Seeking Monopoly by Having Exclusive Selling Agency and Fixing Prices—Denial Made by M. Jean Le Cornec, Director General of French Company—German Potash Syndicate About to Attempt a Loan in United States

Department of Justice recently filed an injunction suit, under Sherman Anti-trust Law and anti-competition provisions of the Wilson Tariff Act, in the United States District Court, New York, against a group of German and French producers of potash. The petition alleges that certain individual representatives of the German and French producers are now in New York City arranging with certain American distributing agencies to project a monopoly of potash, built up overseas, into the United States. It is alleged that because the mines of the French and German companies constitute the only sources of a large supply of potash, users in the United States are almost wholly dependent upon them for their requirements. The petition alleges that the French and German companies since August, 1924, have been dividing sales of potash to be made in the United States and have been fixing prices to be charged for potash sold within the United States. The German companies it is alleged have their own exclusive selling agency in United States, The Potash Importing Corp. of America, New York City, with which it has agreed upon prices to be charged for potash within United States; and that the French companies have a similar agency for the distribution of their products in this country. The petition charges that beginning May 1, 1927, the French and German companies have agreed to continue the division of United States business, and, in addition, to select a single exclusive selling agency, with which they will agree upon the prices to be charged for potash in the United States.

M. Jean Le Cornec, director general Societe Commerciale des Potasses d' Alsace, who arrived in this country recently, sends to "CHEMICAL MARKETS" a statement concerning the U. S. Government suit, begun on Thursday, April 7, against his company and German Potash Syndicate, in which he says through his counsel, Gilbert H. Mentogue, 40 Wall st., New York:

"I have just arrived in America, and am here officially as the directeur general of Societe Commerciale des Potasses d'Alsace, an organization created and controlled by the Republic of France for the purpose of handling the French State Potash mines, which the Republic of France acquired with the cession of Alsace-Lorraine in 1919 under the Treaty of Versailles, and also a few mines owned by French nationals.

"Neither the Societe, nor I have made, or will make, any agreements or arrangements in America looking to the creation of any American corporation, or any agreements or arrangements of any kind in America with Deutsches Kalisyndikat or Potash Importing Corp., or any German or American interests whatsoever regarding the American potash supply, and no decision on this subject has been made, or will be made, until I have returned to France, and have made my report to the Societe."

Referring to the trip here of members of the German potash industry "Berliner Boersen-Courier" in its issue of March 25 says:

"It is learned from well informed sources that in connection with the trip to America of certain leaders in the potash industry it is planned to negotiate with the American fertilizer trust about an increase in the potash content of the mixed fertilizers which the trust sells customarily in America."

Officials of Deutsche Kalisyndikat Gesellaschaft [German Potash Syndicate] now in this country may seek to float here a loan similar to the one which they attempted to market here in 1925 but which they abandoned after Secretary Hoover made known his opposition to such a transaction. Secretary Hoover opposed the loan on the ground that American funds should not be used to strengthen a foreign monopoly in a product essential to American welfare. The loan was later floated in London.

French papers are calling attention to the use of American sulfur by French vineyards, also wine interests in Germany. France bought 7,537,000 pounds of sulfuric acid and 123,000 tons of sulfate of ammonia in 1925.

New freight rates on benzol by New York Central (East) in drums or tank cars, carload from Solvay to Amsterdam (15.5 cents) effective March 20, was approved by N. Y. State Public Service Commission.

Poison In Alcohol Defended by Chemists

Martin H. Ittner Reads Report of Committee of American Chemical Society at Richmond Meeting—Bootleggers Declared Responsible, Not Government—Opposition to Approved List of Chemical Engineering Schools—Dr. Vaughn Discusses "Origin of Life"

(*Special to* CHEMICAL MARKETS)

Richmond, Va., April 13—Alcohol is denatured by the government not to poison it but to render it unmistakably undrinkable, according to a report of the Committee on Industrial Alcohol of American Chemical Society at the 73rd meeting of the society now in session, with headquarters at Jefferson Hotel and gatherings in the hotel auditorium and the Second Baptist Church.

Report of the Committee further says in part:

Ignorance, politics and bootlegging are largely responsible for the outcry against poisoned alcohol, and if criminals improve the taste and odor of denatured alcohol so that it appears potable without removing any possible poisonous character, the guilt is theirs."

The report was made to the society at the opening session of its meeting at the Hotel Jefferson. Dr. George D. Rosengarten of Philadelphia, president of the society, presided at the council meeting.

Martin H. Ittner, Jersey City, made the report on industrial alcohol to the council as follows:

"The agitation against certain formulae for denaturation is attributable to three causes," he said. "First an ignorant belief that denatured alcohol without added poison would be a beverage, and that poison is added by the Government to make its use as a beverage dangerous; second, the vote-attracting possibilities of any measure that is aimed to protect the 'innocent' drinker of denatured alcohol or of illicit drinks made from it; and third, the vague hope that such agitation may result in changes that will make the bootleggers' work easier, and the drinkers' supply more plentiful and safer.

"The primary reason for denaturing alcohol is not to poison it but to render it unmistakably nonpotable, and the Government must insist on denaturants that are hard to remove in all denatured alcohols that are readily procurable and permitted to be used without stringent regulation.

"Alcohol has continued to be the subject of legislation and proposed legislation, and of much controversial publicity. The denaturation of alcohol has been attacked in the public press and in the halls of Congress as tantamount to deliberate potential wholesale poisoning, and proposals for levying a tax upon it have not been wanting.

"In spite of this unrest which is born of the continual controversy for and against prohibition and over the methods for the enforcement of prohibition, no very great change in the alcohol situation has taken place during the last year. The industries have kept out of the controversy that has been waged over the merits of prohibition and the degree of failure or effectiveness of its enforcement."

Dr. Parr, in the report of the Committee on Chemical Engineering Education, said in part: "This committee is not in favor of setting up an approved list of chemical engineering schools. Such a list is bound to result in discord, personal animosities and, worst of all, have a tendency to stifle individual initiative and standardize the teaching of chemical engineering throughout the country."

It is expected that 1,000 of the country's leading chemists will attend the annual convention. Registration began at 10:30 A. M. Monday. The council met at 2 P. M. At 4:30 the delegates attended the dedication ceremonies at the University of Richmond. A buffet supper dance was held in the evening.

Addresses of welcome were made by Gov. Harry Flood Byrd and Mayor J. Fulmer Bright, on Tuesday in the auditorium of the hotel. Dr. George D. Rosengarten replied. Various divisions held special sessions on Tuesday and Wednesday. A Garden Party at University of Richmond was attended on Wednesday by members and their wives. The new chemistry building of the university was inspected. Dr. Victor C. Vaughn read a paper on "A Chemical Concept of the Origin and Development of Life", at a meeting in the evening in the hotel auditorium.

CHEMICAL CREDIT MEN

Chemical credit men of National Association of Credit Men will confer under the chairmanship of I. E. Stilz, of Kiefer-Stewart Co., Indianapolis, on Tuesday afternoon, June 7, when the association meets at Louisville, Ky., during week of June 6, next. Dr. Fall, associated with E. B. Moran, Chicago, in managing the industry groups, says:

"The purposes of the trade groups under the supervision of National Association of Credit Men are to reduce credit losses, to better credit technique and to improve the organization of credit departments. Another important phase of trade group work is the exchange of information concerning both credit and sales conditions, thus giving each member important data on which to base his business activity in all sections of the country."

Swedish Match Co.'s shares, class A and B, were admitted to trading privileges on New York Curb Exchange, on Monday, April 11, and is the first step in the Curb's development of a market for foreign shares. The shares are the original ones of the corporation and are in kroner denomination.

Clarkson Glue Co. has filed a complaint with Interstate Commerce Commission against Chicago, Burlington & Quincy Railroad in which reparation is claimed on shipments of glue stock from St. Joseph, Mo., to Buffalo.

NAVAL STORES EXPORTS

Naval stores exported in February were valued at $1,704,610 compared with $1,946,773 exported during the same month last year. Following are the detailed figures of the exports:

Total naval stores, gums and resins	$1,946,773	$1,704,610	$4,540,508	$4,555,280
Rosin.				
Gum rosin *bbls.	55,660	54,700	110,133	140,648
Gum rosin	$1,364,798	$1,206,003	$2,674,852	$3,022,046
Wood rosin *bbls.	6,677	10,048	30,720	17,726
Wood rosin	$139,120	$184,947	$690,647	$321,512
Gum spirits of turpentine gals.	281,778	241,607	911,824	1,250,282
Gum spirits of turpentine	$295,839	$209,018	$936,462	$960,228
Wood turpentine gals.	71,959	27,420	95,463	110,401
Wood turpentine	$59,079	$21,038	$80,906	$74,425
Tar and pitch, wood *bbls.	706	1,439	1,636	2,759
Tar and pitch, wood	$12,458	$27,466	$30,383	$46,306
Other gums and resins lbs.	241,286	142,711	409,870	381,783
Other gums and resins	$75,479	$56,138	$127,258	$130,763

*Of 500 pounds.

ENGLAND SUSPENDS DUTY ON CHEMICALS

List of Products Entitled to Free Entry for Twelve Months—Glycerin Prices Unchanged, but Demand Is Less—Other Chemicals Firm—Chilean Government Unable to Find Solution of Nitrate Problem—Awaits Action by Nitrate Association

(*Special to* CHEMICAL MARKETS)

London, April 2—The Chemicals are only fairly active with few changes in value to note, but in every direction reports of exceptional firmness predominate. Glycerin, forms an exception since the crude market has been on the quiet side for several weeks, only relatively important transactions taking place in consequence of which values have gradually dropped and are now several pounds per ton below the highest point reached. It is held by some that a demand sufficiently important to again raise the market will spring up later. Some makers who can afford to wait are holding in anticipation of a better market. For distilled, there is no change in quotations of British Glycerin Association. Contracts for 5 tons upward 112s 6d per cwt in ½ ton deliveries of C. P. 1260 s. g.

Nitrates—Cables just received here from Santiago indicate that the Chilean Government does not intend to depart from it policy as regards taxation of the industry. Export tax is to remain, it is announced, until June, 1928, and requests for reductions will not be granted. Conditions are to be imposed on the sales system. A drastic change in the policy of past Chilean Government is to be made. It is alleged that the Nitrate Association has been unable to find a solution to the present crisis. The Government has a plan of its own but is waiting to see the attitude of the Nitrate Association. The Government plan is not disclosed. From this message it is evident that the Government desires to see the nitrate industry restored to prosperity, but there is disagreement at present over the method.

Following the notice recently issued by the Board of Trade the following products can now be imported into this country free of duty for twelve months:

Acetone; acetone fermentation; acetone, snythetic; acid oxalic. The initial effect of this exemption has been to disorganize markets and prices have since been merely nominal. A more settled tone, however, is now apparent and as business was restricted during the period of waiting it is expected that an improvement in the markets will take place almost immediately—the more so that previous importations here have been effected by foreign makers much below world prices, for oxalic acid in particular in order to assist in paying the import duty. Other products now exempted from the act mostly fall into the category of fine chemicals or bordering thereon and are as follows: Amidopyrin (pyramidon) Dimethyl-amids, Antipyrin Barbitone (veronal) malonal, malourea, Acid Diethyl-barbituric diethyl-malonylurea, hypnogen (deba) furfural, guaiacol carbonate (quotal, methyl sulphonal diethy-sulphoneonethylethyl (methane) trional phenacetin (acetpara-phenetidine) phenazone (antipyrin) phenyl-dimethyl, pyrazolone, analyesin, anodynine, dispermin, pyramidon, veronal salol (phenyl salicylate) sulphonal.

Carbolic Acid Crystals—Large sales have been made for export several months ahead with increased demand the market has this week responded smartly and sales over 8d per pound in large drums f. o. b. have been made.

Sulfate of Copper is firm at £25 per ton for best British brands.

Oxalic Acid 3d to 3⅛d per pound.

GERMANY'S NEW FERTILIZER TO BE SOLD IN U. S.

Sample Shipments Already Made, Says Trade Commissioner Dougherty, Berlin—German Law Restricting Sales of Potash Abroad to the Potash Syndicate Temporarily Delays Plans— Calcium Cyanimide Production Increased in 1926

Sample shipments of "Nitrophoska", new complete chemical fertilizer made by German Nitrogen Syndicate have been made to United States and elsewhere, the potash syndicate having agreed that "Nitrophoska" is the property of the nitrogen syndicate and can be sold by it for export. The potash syndicate was inclined to claim that the new fertilizer could be sold abroad only by the potash syndicate because it contains potash as a basic constituent. The Potash Act of 1919 specifies that potash for export can be sold only by the potash syndicate.

Germans maintain that American fertilizer mixtures with, say 15 per cent effective fertilizer substance, out of which 9 per cent is phosphoric acid, carry too much ballast (and consequent freight charges) and a disproportionate amount of phosphorus. Nitrophoska, on the other hand, has 50 per cent effective fertilizer substance. It represents an organically combined mixture, in which part of the P^2O^5, is combined with ammonia (Diammonphos), while the potash is bound to saltpeter (Potassium nitrate).

Another topic of outstanding interest in the nitrogen industry is the two German concerns owning Chilean nitrate properties, expressing the desire to be freed from convention ties so as to better meet competitive prices of synthetic nitrogen. These are some 15 per cent lower in German ports than Chile nitrate, although its is significant that Germany increased imports of Chile saltpeter from 24,527 tons in 1925 to 27,525 tons in 1926. The almost balancing exports of 27,929 tons of sodium nitrate by Germany in 1926 may have been of synthetic sodium nitrate. Whatever real increase is involved in Chile saltpeter imports reflects the popularity of this salt here with sugar-beet growers, chief consumers of this product.

Calcium cyanamide production was increased in Germany last year, but not in proportion to fixed nitrogen in Haber-Bosch salts, writes Trade Commissioner Wm. T. Daugherty, Berlin. Of cyanamide, says disinterested local opinion, it has at least two good selling points. It is cheaper by eight pfennigs per kilo than I. G. production (although this had been 10 pfennigs in the year previous) and that it has calcium content, with acid freedom unlike ammonium sulfate. On the other hand, Trostberg in Bavaria, where cheaper hydro-electric power is available for cyanamide manufacture, lies unfavorably in relation to the rest of Germany in the matter of freight rates.

Doubtless intended to better most cyanamide and Chile saltpeter competition, the I. B. is extending production of its air-fixed calcium nitrate. This is being packed in special sacks on account of its hygroscopic character. Before the war German farmers used 3,000,000 tons of limestone to neutralize the acid in the soil, while this figure only amounts to about one-fourth of that quantity now. In the meantime, ammonium sulphate consumption.

Sodium Nitrite Suit Dismissed

U. S. Supreme Court Upholds Tariff Board In Refusal to Disclose Costs of Production—Norwegian Nitrogen Products Co. Brought Action in Connection With Flexible Tariff Ruling, Increasing Duty to Protect American Manufacturers—Foreign Companies Refused Information About Costs

(*Special to* CHEMICAL MARKETS)

Washington, April 13—Norwegian Nitrogen Products Co.'s suit against U. S. Tariff Commission to compel disclosure of costs of production of sodium nitrite in United States has been remanded by U. S. Supreme Court to the lower court where it was tried, and that the suit be dismissed. This case is looked upon as a most important one, since involved in the decision is the security given informants here and abroad against disclosure of trade secrets and intimate business information. It has been declared that in the absence of such a guaranty it would be made very difficult to gather the data required in the administration of the flexible tariff provisions of the Fordney-McCumber act.

Supreme Court points out that under law it is optional with Tariff Commission whether it shall undertake any investigation, in absence of specific directions from the President alone, under the flexible tariff provisions requiring public hearings. Other requirements of the commission that it shall make certain specified studies of the administration and operation of the tariff laws on request of the President or certain Congressional committees contain no provision for hearings. All relief sought in the case in question is incidental to the hearing before the commission. The court added that the investigation had been conducted in accordance with the law. And in conclusion the court held that "even if the change in tariff rates were deemed to be ineffectual it would not follow that it is mandatory upon the President or the commission to institute a new hearing."

In October, 1922, American Nitrogen Products Co., a corporation of the State of Washington, filed an application for a 50 per cent increase in the duty on imported sodium nitrite, and the commission in March, 1923, ordered an investigation of the differences in cost of production at home and abroad and of other pertinent facts and conditions. A public hearing followed.

Norwegian Nitrogen Products Co. is engaged in the importation of nitrogen products into the United States which it sells on commission, and represents in the United States as exclusive agent the Norwegian Hydro-Electric Company, the only manufacturer of sodium nitrite in Norway. Representatives of the commission sought from this latter company and from German manufacturers data showing the cost of production in Norway and Germany, which information was refused.

JAPAN'S FERTILIZERS MUCH OVER-PRODUCED

(*Special to* CHEMICAL MARKETS)

Tokyo, March 23—Fertilizer prices declined in 1926 owing to over-supply. Sulfate of ammonia touched the lowest point since the start of this business in Japan. Superphosphorite was no exception. Increase of imported ammonium sulfate was due to slack business on oversea markets. The increased import of bean cake was an outcome of the drop in bar silver. Japan's raw silk price declined from yen 1,950 toward the beginning of the year to yen 1,450 at the year-end. The price of rice fell from the year's highest peak of yen 40 in July to yen 34. Wheat also dropped from yen 10.50 in early January to yen 7 after May. Business depression in agricultural circles resulted from loss of purchasing power by the farming classes. Fertilizer consumption for 1926 was about a 10 per cent drop from 1925.

Phosphate ores imported into Japan during 1926 totaled 403,000 tons, gain of 57 per cent, or 147,000 tons over 1925. This set a record amount, a double increase over imports of 1921 and 270 per cent over 1923. Imports were mainly brought from the Anguar, Christmas and Ocean Islands, Egypt and Florida and also from Lasa Island under mandatory rule of Japan in South Seas. Imports from Lasa Island formerly were 200,000 tons a year, but they dropped to 70,000 tons last year.

Production of superphosphate fertilizer for 1926 by twelve companies, according to a report of the Japan Fertilizer Association, was 758,000 tons for high-power fertilizer. About 380,000 tons of materials are necessary to manufacture 758,000 tons. The excess of materials for 1926 totaled more than 90,000 tons. This tendency also was evident in 1925, when the excess of materials was 26,000 tons.

German sulfate of ammonia is finding its way in a large volume to Japan. Imports for 1926 were a 70 per cent gain over the preceding year and more than 300 per cent increase over 1922. Unusual development of German nitrogenous industry and consequent active importations by three companies, Mitsui & Co., Mitsubishi Trading Co. and Suzuki & Co., who are special agents for this country, are responsible. Not only German products but British and American products were imported heavily. The production in Japan last year increased over the year before last and made a record. These facts combined are causing business depression in sulfate of ammonia. The recent market prices were yen 140 for Japanese products and yen 135 for imports, the former falling yen 55 and the imported product yen 52 from June, 1926.

Production and imports totaled 436,000 tons and the hold-over was 30,000 tons. The actual amount of supply for 1926 was 465,000 tons. Consumption was about 400,000 tons, an increase of 20 per cent over 1925. The remaining amount of 65,000 tons was carried forward to 1927, a gain of 25,000 tons over 1926. The Mitsuis, Mitsubishis, and Suzukis, all agents for German as well as American sulfate, have agreed to co-operate to counteract the market depression, stopping sales competition. The most difficult question is whether Brunner, Mond Co., sole agents for British sulfate of ammonia, signs the agreement. This British concern sells direct to Japanese farmers without the medium of Japanese companies. Co-operation between these Japanese companies and the British concern is not likely.

GERMAN SUIT DISMISSED

(*Special to* CHEMICAL MARKETS)

Washington, April 13—Germans whose property was seized by the Alien Property Custodian during the war may not in their own behalf institute suits arising out of their business relations with individuals or concerns in this country, but must look to their own Government for any redress they may believe is due them, the Supreme Court ruled in effect, in declining to review a decision of the lower courts in the appeal of H. Mutzenbecher, Jr., against Sumner Ballard. The suit involved insurance agreements and funds derived from business transacted by Ballard for which Mutzenbecher sued.

POOL IN FREEPORT TEXAS

Freeport Texas Co. stock is reported to have yielded $4,000,000 profit to Jesse L. Livermore, Wall Street speculator. Stock of the Freeport Texas Company has been a market spectacle for some weeks. It touched a high Monday of 74⅝, which was within ⅛ point of its high for all time, reached on Saturday. It had a bad break Monday, passing within an arc of 5 points and closing at 72 with a net loss of 2½ points. The stock sold as low as 19⅝ in 1926. Its low mark in 1925 was 8. Dividend payments on an annual basis of $2 were resumed in February, 1927, and this rate was increased to $4 recently through the declaration of a quarterly dividend of $1, payable May 2.

Co-operation in the French chemical industry has resulted in the formation of the "Comite de l'Industrie Chimique." All questions affecting the welfare of French chemical industry as a whole, will be the concern of the Comite, the formation of which is due principally to the initiative of Raymond Berr, General Director of the Kuhlmann combine. The co-operating concerns are the Saint-Gobain, Kuhlmann, Pechiney, Societie d' Electrochimie, Potasses d' Alsace, Bozel Maletra, Usines du Rhone, Saint-Denis, l'Air Liquide, Poulenc Freres, and the Societe Generale de Dynamite.

Sir William Hoy, general manager of South African railways and harbors made the statement at a conference at Durban, Natal, S. Africa that in the near future South Africa would probably be the biggest manganese producer in the world. The main deposit is near Postmastsburg in Griqualand West, 100 miles west of Kimberly.

C. Wilbur Miller, president Davison Chemical Co. Baltimore, is on the way home from England, where he is said to have gone to close negotiations for sale of Davison Co.'s pyrites property in Cuba to Rio Tinto Co., Spain. The consideration involved, is said to be about $4,000,000.

J. P. Morgan & Co. are said to be acquiring stock of American Cellulose and Mfg. Co., which closed last week at $132 per share. It was quoted at 74 in January American Cellulose is making brand yarn. Du Pont is believed to be interested.

Lower Cottonseed Oil Ahead

The following market letter and chart by W. A. Storts of Edward Flash Co., are a resume of the cottonseed oil position for March.

March 28, 1927.

This month we have eliminated price comparison for last several years and, instead, above, you will find comparison, for last ten years, of seed, consumption and carryover.

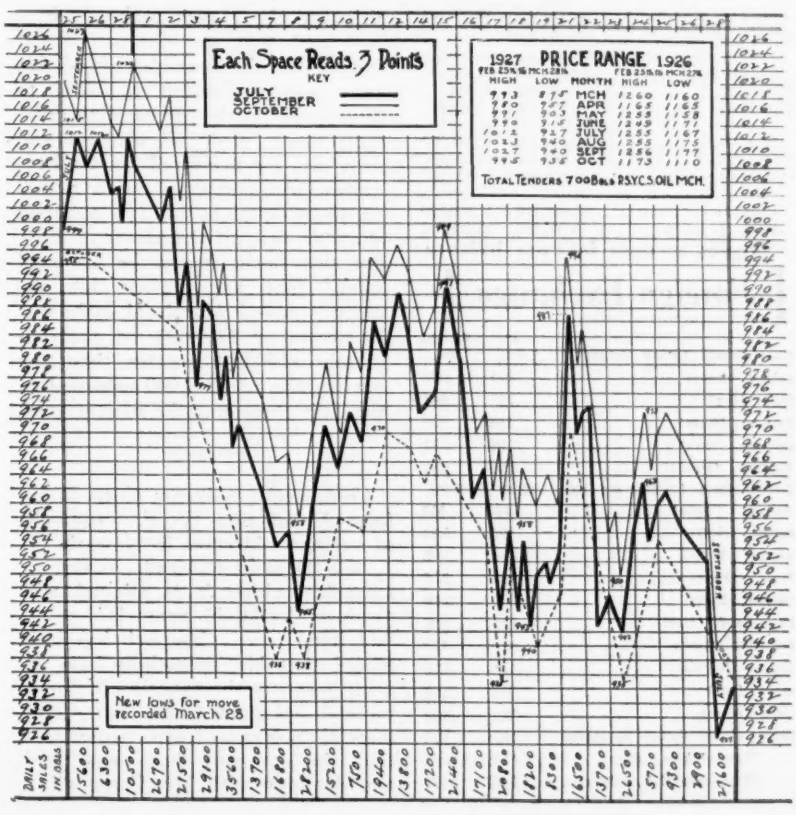
February statistics on cottonseed products, per census report, March 15th, surprised everyone, in showing refined oil consumption 346,000 bbls., also seed receipts 486,000 tons, both considerably larger than expected, about offsetting each other in market effect. After March 1st last season, 365,000 tons seed were received at mills. Surely it is safe to estimate that much will be received balance of this season, assuring total well over six million tons.

Refined oil consumption, August to February inclusive, was 120,000 bbls. less than same period last season. Most everyone is complaining of slow new demand at present, and consumers show little interest in replenishing stocks; in fact, having overbought last Fall at lower prices, these old contracts are still being digested and considerable resale oil is appearing on market under refiners' prices for new business.

Visible seed, crude and refined, March 1st, aggregated 2,045,00 bbls. Refined oil heaviest March 1st on record, about 700,000 bbls. over March 1, 1926. Refined oil consumption, March to July last season, aggregated 239,000 bbls. monthly and the consumption for the last five months of this season must average considerably over 300,000 bbls. monthly to prevent a burdensome carryover August 1st.

All deliveries today made new lows for the move, May selling 9.03, July 9.27, and a few tenders March oil caused sales of spot PSY 8.75. Also, there were reported few scattered sales crude 7½c Southeast mills.

During last several months many consumers and "hedgers" have overbought themselves. Consequently, there is a big, long interest in cash oil and both "Future" markets, May to September inclusive. When this long interest liquidates, both cash oil and "Futures" will probably sell lower than present prices. Much will depend upon crop prospects during the growing season. There seems too much oil available for digestion at present levels unless considerable quantity can be disposed of for export, and prices now ruling are not low enough for heavy exports. Anticipating that prices will fluctuate considerably, it is our belief that lower prices will prevail.



[The Industry's Finances]

U. S. INDUSTRIAL ALCOHOL CO. EARNS $7.04

Sale of Securities Brings In $1,133,474—Total Income $2,585,400—Assets and Liabilities as Shown by Consolidated Balance Sheet—Surplus Dec. 31 Amounted to $18,263,379—Earnings in 1925 Show Much Larger Net Income Than in 1926, Not Including Sale of Securities

U. S. Industrial Alcohol Co.'s report for 1926 shows net income $2,328,229, after taxes and charges, equivalent after preferred dividends to $7.04 per share, compared with $2,167,250, or $6.74 per share in 1925. By sale of securities the company obtained $1,133,474, which brought the total income up, in spite of the fact that earnings for 1926 were much less than in 1925. Active earnings were only $1,451,926 compared with $2,687,057 in 1925. Consolidated balance sheet follows:

ASSETS

	1926	1925
Property	$44,622,057	$45,372,438
Cash	5,255,230	990,428
Liberty bds	.....	.....
Accts and bills rec...	3,053,585	2,883,775
Mdse., etc.	3,061,105	5,512,926
Def. chgs.	244,478	(31,510
Total	$56,236,465	$55,391,077

LIABILITIES

Pfd. stock	$,000,000	$6,000,000
Com. stock	24,000,000	24,000,000
C D pf stk.	1,836,000	1,836,000
Accets. and nts pyble	*1,316,781	1,461,502
Tax res.	500,412	379,687
Divs. pay.	405,000	105,000
Dep. res., etc.	3,9'4,293	4,017,418
Surplus	18,263,379	17,590,870
Total	$56,236,465	$55,391,077

*Accounts payable only.

	1926	1925
Oper. prof.	$1,451,926	$2,687,057
Prof. on securities	1,133,474	.....
Total inc.	$2,585,400	$2,687,057
Interest	27,492	140,119
Fed. tax res.	319,679	379,687
Net inc.	$2,238,229	$2,167,251
Pfd. divs.	420,000	420,000
C D pfd. divs.	128,562	128,562
Surplus	$1.689,667	$1,618,689
P & L surp.	18.263,465	17,590,870

Surplus account follows: Balance Dec. 31, 1925, $17,590,870; add: surplus for 1926 after dividends $1,689,667; total credit $19,280,537; deduct: amount reserved for common dividend $300,000 and additional allowance for depreciation, in connection with federal tax settlement, $717,158; surplus Dec. 31, 1926; $18,263,379.

R. R. Brown, president, in a letter to stockholders said in part:

"During the year the Company, through subsidiary companies, acquired distilling properties at Newark, New Jersey, and Anaheim, California. All but one thousand shares of the stock of The Cuba Company purchased in 1918 have been disposed of. The profit is indicated in the Profit and Loss Statement."

[Foreign Exchange]

	Par	Current
Great Britain (pound sterling)	4.866	4.86
France (franc)	.193	.035
Italy (lira)	.193	.048
Belgium (franc)	.198	.139
Germany (mark)	.238	.237
Denmark (krone)	.268	.267
Czechoslovakia ((crown per 100)	20.30	2.96
Holland (florin)	.400	.400
Poland (zloty)	.193	.121
Norway (krone)	.258	.258
Spain (peseta)	.193	.177
Sweden (krone)	.268	.2.68
Switzerland (franc)	.193	.192
Argentine (peso)	.414	.423
Brazil (milreis)	.324	.118
Japan (yen)	.499	.488
India (rupee)	.485	.362
China (Silver dollar, Hongkong)	.789	.505
(Tael—Peking, silver)	1.146	.673
(Tael—Shanghai, silver)	1.986	.631

Mathieson Alkali Co.'s net income for the first quarter of 1927 shows large increase over the same period, 1926. With actual figures for January and February and estimating the March earnings, it is indicated that the company's net income for the first quarter of this year was equivalent to close to $3 a share on the outstanding common stock, after all charges and provision for preferred dividend requirements compared with actual earnings equal to $2.23 a common share in the initial quarter of 1926. On this basis, it can be assumed safely that net income for the quarter ended March 31 last, was in excess of $400,000, or approximately $100,000 greater than the net income of $334,000 returned in the first three months of last year.

Commercial Solvents Corp. is informed that one W. F. Campbell, of various addresses in Newark, N. J., and Denver, Colorado, is selling formulas which it is alleged will produce "celluloid enamels", celluloid inks", etc. Campbell has intimated that his operations have in some measure the sanction of Commercial Solvents Corp., but Commercial Solvents Corp. announces that the company has never had any dealings with Mr. Campbell.

MERCURY EXPANSION

International Mercury Corp., Los Angeles, Cal., which recently acquired the Cambria quicksilver mines in San Luis Obispo County, California, is a Delaware corporation capitalized at $5,000,000. The officers are J. B. Treadwell, president; P. T. Brunsing, first vice-president; Maurice Cleary, second vice-president; W. T. Sebelle, treasurer, and C. S. Richardson, secretary.

International Mercury owns Oceanic mine in San Luis Obispo County, Mount Jackson, Cloverdale and Culver-Baer mines in Sonoma County Patriquin mine in Monterey County and Cuddleback mine in Kern County. Other cinnabar properties on the Pacific Coast are being acquired.

NAT'L LEAD BUYS TITAN

Cables from Norway indicating the purchase by National Lead Co. of a controlling interest in Titan Co. of Frederiksstad have been confirmed by President E. J. Cornish of National Lead Co., who said that it was the intention of National Lead to acquire the Titan Co. if the directors of Titan Co. would bring in all outstanding capital stock, none of which has reached the general public, and if they retained Dr. J. Jebsen as managing director.

Titan Co. was organized in 1916 for working titaniferous raw material into titanium oxide pigment.

Glidden Co.'s March profits, according to Adrian Joyce, president, are expected to exceed those of the similar month last year. April orders have been received in such volume that facilities will be taxed to fill them. The Studebaker Corp. is among concerns which have placed large orders for April delivery. The Toronto plant is operating night and day.

Profit of British Dyestuffs Corp. for nine months to Dec. 31, when company was merged into Imperial Chemical Industries, totaled £83,000 against £253,500 for full previous year. Directors state that reduction in earnings was due to coal strikes.

Alianza Co., London, with nitrate interests in Chile, reports a net loss in 1926 of £34,000, and no dividend was declared on £500,000 of capital. In the previous year 10% was paid.

Zschimmer and Schwarz Chemnitz, Germany, have bought the chemical factory at Heinrichshall,

[Stocks & Bonds]

	1926 High	1926 Low	1927 High	1927 Low	Current Bid	Current Asked	Ann. Div.
*Air Reduction	146¾	107½	152½	134½	148¾	151	5
*Allied Chem.	148⅞	106	143⅞	131	140⅝	141¼	6
*Allied Chem. pfd	122¾	118¾	122	120	120½	121½	7
Am Ag. Chem.	34⅜	9	14⅜	8¼	9	10	
*Am Ag Chem pfd	96½	35⅝	51¾	28¼	32½	33	
*Am Can	63½	38⅞	50¾	43⅝	45⅛	45¾	2
*Am Can pfd	130⅛	121	132	126	128	130	7
*Am Cyan "A"	46	36⅞	40	32	32	37	
*Am Cyan "B"	47	35¼	35	32	28½	29½	
*Am Linseed	52⅞	25⅝	30½	20¼	22¼	23	
*Am Linseed pfd	87	68¾	71½	46⅝	50	52¾	7
*Am Metals	57⅜	42¼	44	41½	42	43½	8
Am Metals, pfd	**120**	**113½**	**112**	**107**	**109**	**111½**	**7**
Am. Rayon Prod.	35¾	29¾	9¼	3½	5¾	5⅞	
*Am Smelting	152	109⅝	153¼	132⅝	144⅝	145	8
*Am Smelting pfd	122⅜	112⅞	122	119¼	121½	122	7
*Am Zinc	12⅛	5½	10½	8½	8¾	9	
*Am Zinc pfd	54½	20	51¾	42	50	50¼	
Anglo Chil. Nitrate	101	97½	100⅛	95¼	95½	...	
*Archer-Dan-Mid.	34⅞	36	42	38	38	39	3
*Archer-Dan-Mid. pfd	108	100	108	106	108	109	7
*Armour Del pfd	97⅞	90¼	96⅛	92	94½	94⅝	7
*Atlas Powder	64	54	62½	56½	59	60	4
*Atlas Powder pfd	97⅞	96	102	98	101	101¾	6
*Brookln Un Gas	93	68	93¾	89¾	90¼	90¾	4
*By-Products Co.	93	53	83¾	66	80	80⅝	2
*By-Products Co. pfd	...	...	115	105	108	113	9
*Calla L & Z	2⅝	1½	2⅝	1½	1½	1⅝	2
Canad. Ind.	20	16¼	27	14	26	26⅝	
Canad. Salt	145	131	115	105	105	115	1
Casein Co.	...	...	176	149	168	173	6
Celluloid Corp.	26	16	22	16	20	22	
Celluloid Corp pfd	68	55	73	63	69	72	
*Certainteed Prod	49½	36⅛	49¾	42	45¾	46	4
Charcoal Iron	33½	24	20	8	10	20	
Chesebro Mfg. Co.	78	65	78	73	75½	78	
Clark Co. Fred	5	2¾	4	2	2½	4	
Cleve Cliff Iron	75	69½	75	69	70	75	
*Columb Carbon	70¾	55⅝	85½	66⅞	81¾	82	4
*Com Sol B	237	118¼	305	223	304¾	305	8
*Cont Can	92½	70	73½	61	61⅛	61¾	5
*Cont Can pfd	126	117½	125	120	123⅛	124	7
*Corn Prod	51⅜	35⅝	58½	46⅞	58	58¾	2½
*Corn Prod pfd	130¼	122½	130	128	128	130	7
*Davison Chem	46¾	27½	32¼	26½	28	28¼	
*Davison Chem. pfd	...	...	43½	43	43½	43½	
*Devoe & Rayn A	104⅛	31	42⅜	37¾	37½	39	2.40
*Devoe & Rayn B	105	40	107	103	102½	104	
*DuPont deb.	110¼	100¾	112	105½	110½	111⅜	6
*DuPont de Nem	181½	157	234	168	232	233	8
*Eastman Kodak	146¾	106⅝	147½	126¼	144½	145½	8
*Freeport Texas	36	19⅝	66⅜	34	64¾	65	2
*Gen Asphalt	94¼	50	96¾	77½	82⅛	83½	
*Gen Asphalt pfd	130	94⅞	144⅞	120	120	130	5
*Glidden	25¾	15⅜	22	18½	20	20¼	2
*Gold Dust	56½	41½	50	42	48½	48⅞	
Grasselli	145	120	130	125	125	130	8
Grasselli. pfd.	103½	102	103	100	101	103	6
Hercules Powd pfd	115	110	118	115	116	118	7
*Household Prod	48¾	40	50¼	43¼	48¼	48½	3½
Industrial Rayon	19⅞	10½	8½	4¼	7⅛	7¼	
*Int Agr	26¼	9⅛	10¾	8½	6½	6¾	
*Intl Agr pfd	95	57	65	33	33¼	34	
*Intl Nickel	46¼	32⅜	44⅝	38¼	44⅝	44¾	2
Intl Salt	84⅝	61½	72	65	65	68	6
MacAnd & Forbes	46¼	40	43½	40	41⅝	42	
*Mathieson Alk	106⅛	62½	109⅜	82	104½	105½	4
*Mathieson Alk pfd	105	100	107½	103	105	110	7
Merck & Co.	...	...	86	65	80	82	
Merrimac	83	72	80	73	75	80	10
*Natl Dist	34	12½	27½	17	24½	25	
*Natl Dist pfd	73½	57	52½	43½	47	50	
*Natl Lead	181	138	200	160	191	193	8
*Natl Lead pfd	120	116	130	117¼	123	125	7
N J Zinc	214½	180	206	202	203	206	
Niag A pfd	...	...	...	.	80	85	
*Owens Bottle	99¾	53¾	84½	75⅛	82⅛	83⅜	5
Penn Salt	91	71	77	74	76	77	5
*Peoples Gas Chi	131	117	140	126	136½	138	8
Proc. & Gam	163	142½	159	157	159	..	
Royal Bak Pdr	213	190	179	161	163	169	8
Royal Bak Pdr pfd	105½	102	104	99	101	103	6
Shawinigan	191	167½	170	168	170	...	
*Sherwin-Williams	108	108	109	105¾	107	108½	
*St Joseph Lead	48½	36⅝	43¾	40½	40⅝	41	3
Silica Gel	22¾	11⅞	19	13⅛	15	...	
Swan & Finch pfd	...	...	30	20	20	30	
*Swift & Co.	110	110	120¼	116	117½	...	8
*Tenn C & C	16	10⅞	13¼	10⅝	11	11¼	1
*Texas Gulf & S	142	119½	175½	173	175	175½	10
*Union Carbide	100¾	78	122⅝	98¾	119½	120½	6
*United Dye pfd	58	58	49	30	38¼	40	
Un Gas Imp	144½	84⅛	108	106	106½	108	
*U S Gypsum	166	126	110	107	107½	110	
* U S Ind Al	84½	45¾	89	69	75¾	75⅞	5
*U S Ind Al pfd	114⅞	90¼	110¼	107¼	107¼	108	7
*Va Car 6% w i	69	31⅜	36¾	26⅛	27	28	6
Will & Baumer	...	...	16½	15	16½	...	

PACIFIC CO. EXPANDS

California Chemical Corp., principal producer of magnesium chloride on Pacific Coast, has completed arrangements for consolidation of its holdings in the San Francisco district preparatory to major plant expansion there. The company has been manufacturing magnesium chloride and potash salts for several years at its Chula Vista, California, plant. During 1926 bromine production was also undertaken there. Recently the plant and properties of Industrial Chemical Corp. at Newark, Cal., and Whitney Chemical Co., at San Mateo, Cal., were acquired. These purchases together with the consummation of long term contracts with Leslie California, Western, and Arden Salt Companies put California Chemical Corporation in control of the sea water bittern derived from the immediate production of some 250,000 tons of solar salt yearly, while over double this quantity will become available in the near future.

Plans call for immediate erection of a bromine plant at San Mateo and for the continuance of production of magnesium chloride at Newark, with the erection of a major bromine, magnesium compound and diversified chemical operation in the Newark district to go forward shortly. Production of magnesium and potash compounds and of bromine will be continued at Chula Vista.

California Chemical Corp. has operating offices at Chula Vista, Newark and San Mateo, with executive and sales offices at Porterville, Cal., San Francisco and Chicago. Stanley H. Barrows of Chicago is president, Max Y. Seaton vice president, Charles H. Howse treasurer, and Paul A. Gross, works manager.

R. H. Beaumont Co. Philadelphia, has taken over the business of American Mfg. and Engineering Co., Kalamazoo, Mich., and products formerly manufactured by this company, including American slack line cableway excavator, will now be manufactured by R. H. Beaumont Co. S. O. Nafziger, president American Mfg. and Engineering Co., will be associated with R. H. Beaumont Co.

Solvay Sales Corp., St. Louis, has appointed K. M. Vaughn to represent Solvay Process Co. in Southern Kansas, Southwestern Missouri and Oklahoma.

Association of Chemical Equipment Mfrs., Inc., is moving from 1328 Broadway to Pennsylvania Building, 225 W. 34th st., New York, April 8.

[Industrial Chemicals]

MARKET STEADY; MOVEMENT IS HEAVY

Copper Sulfate Firmer—Alcohol Advance Maintained—Methanol Steadier—Barium Chloride Soft in Price—Mercury Up Sharply Again—Tin Salts Hold at Recent Prices—Hydrogen Peroxide in Sharp Competition.

Advanced
Mercury $6 flask.

Declined
No declines

Trend of the Market

	Today	Two Weeks Ago	Last Month	Last Year	War Peak	Pre-War
Acetic Acid, Glacial, c-l....lb	.11⅞	.11⅞	.11⅞	.11½	.19⅛	...
Sulfuric Acid, Tanks 66o ..ton	15.00	15.00	15.00	14.00	55.00	20.00
Amm. Sulfate c-l NY....100lbs	2.50	2.50	2.50	2.75	7.50	2.65
Bleaching Powder, c-l ..100lbs	2.00	2.00	2.00	2.00	9.50	1.50
Copper Sulfate c-l NY....100lbs	4.75	4.75	4.75	4.65	20.00	4.60
Potash Caustic c-l Imp. ....lb	.07⅛	.07⅛	.07⅛	.07⅛	.87	.08
Soda Ash, 58 p.c. c-l ..100lbs	1.94	1.94	1.94	1.94	3.50	.60
Caustic Soda, 76 p.c. c-l 100lbs	3.66	3.66	3.66	3.66	9.50	1.42
Potassium Bichromate .....lb	.08¼	.08¼	.08¼	.08¼	4.65	.06
Sodium Prussiate .....lb	.12	.12	.11	.10	1.25	.18
Average	3.013	3.012	3.012	2.898	10.79	2.99

Current Quotations and Comments on Specific Items, Pages 566-576

Movement of all industrial chemicals is steady and prices as a rule are firm. Distillers of alcohol are maintaining their schedules at the recent advance to 37½c gal. for tanks of C.D. 5. This advance will doubtless be maintained due to the fact that the advance was entirely based on the fact that new crop alcohol had to be obtained for further operations and prices on the new crop material are considerably higher due to speculators having cornered the market. Glycerin shows practically no change in position. Dynamite prices are slightly firmer, crude is dull and unchanged, and C.P. supplies are large and the market is soft. Other solvents are quiet but moving in large steady volume. Offerings of methanol are large for the pure grade and prices are not steady. Denaturing grade is having some difficulty finding a ready outlet due to the slight demand for completely denatured alcohol at this time of the year.

Heavy chemicals are moving but the market generally lacks snap. Barium chloride is still weakened by low priced shipment material from importers. Copper sulfate is firmer and is moving with greatly increased activity due to the approach of the season. Mineral acids are without price change and are moving in good volume on contracts.

Tin salt prices have remained unchanged at the figures announced on March 21. Mercury is sharply higher at $123 flask due to practically all supplies being in the hands of speculators and the large Spanish mine closing down shortly for the Summer.

Hydrogen peroxide is the basis of a price war and 100 volume material has declined sharply during the past month. Alkalis are unchanged as to position although makers maintain that there is a firmer tone to the market. Municipal and Government continue to be taken by makers' agents at the prices that cut the schedule sharply, but this is generally surplus material available at the moment and sometimes it is one maker and then another.

Fusel oil shipments to the United States from Danzig show increase of more than 2¾ times while price increase was more than 9½ times in 1926. Figures for 1925 were 13,810 pounds, value $3,325, compared with value of $31,866 in 1926.

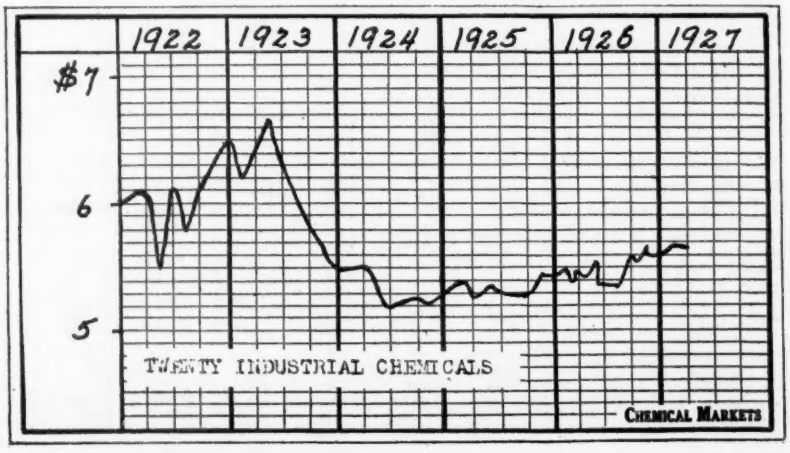
CARTER ON EQUIPMENT

G. O. Carter spoke on "Behind the Scenes in Chemical Production," at a luncheon by American Institute of the city of New York, at Town Hall Club, Thursday, April 7. Mr. Carter is consulting engineer for Union Carbide & Carbon Corp., and former president of Association of Chemical Equipment Manufacturers. He said in part:

"Almost everybody knows, by name at least, something about DuPonts, General Chemical Co., Grasselli Chemical Co., and other great chemical, dye and similar manufacturing organizations. When the great war cut off Germany as a source for chemicals, our nation with interest watched and encouraged the establishment of our own chemical industry. But public interest has never gone behind the scenes to discover that our present large chemical enterprises could not have been built up if a comparatively small number of companies had not succeeded in developing the proper equipment. Much of this equipemnt is really something new "under the sun". There never was anything like it before. It carries manufacturing processes into realms never before conquered.

"Very few business men understand the equipment side of chemical production. And, as a very eminent man in the Electro-Chemical and research work, P. M. Beckett, has pointed out, much money is wasted on processes that are not correctly estimated on at the start. On the other hand, many ventures might have succeeded had they not been loaded up with excessive costs for equipment or the failure to use the most efficient available equipment.

"After the major product is made it must be prepared for market. Frequently the reaction gives a dilute mixture which calls for evaporation, filtration or rectification.



Diethylene Glycol

Now available in commercial quantities

AS a further step in the synthesis of organic chemical compounds the Carbide and Carbon Chemicals Corporation is pleased to announce the production of diethylene glycol on a commercial scale.

Diethylene glycol (di hydroxy ethyl ether) is a colorless, odorless liquid soluble in water, boiling at 245° C. and freezing at approximately 10° C. It is a solvent for nitrocellulose, gums, resins and many organic liquids. It is considerably more hygroscopic than glycerine and for this reason has been used in the manufacture of composition cork.

Diethylene glycol can be nitrated to yield dinitro diethylene glycol, an explosive valuable in the manufacture of dynamite and smokeless powders.

The hydroxyl groups can also be replaced by other radicals to yield such products as diethylene glycol mono ethyl ether (B. P. 198° C.), an excellent nitrocellulose solvent.

Diethylene glycol is offered in commercial quantities at a price that invites its use in the following fields:

1. As a solvent for nitrocellulose.
2. In the manufacture of explosives.
3. In the manufacture of composition cork.
4. As a raw material for further synthesis.

The above reactions illustrate only a few of those our laboratories have investigated. Our technical department will be glad to advise you about other reactions that may have a more direct bearing on your processes.

CARBIDE AND CARBON CHEMICALS CORPORATION
30 East Forty-second Street, New York, N. Y.
Unit of Union Carbide and Carbon Corporation

[Crudes & Intermediates]

BENZENE WEAK; INTERMEDIATES STEADY IN TONE

Sales of Benzene Reported at Prices Sharply Below Open Figures—Toluene Remains Only Firm Light Oil Distillate—Solvent Naphtha and Xylene Prices Soft—Dyes Sharply Competitive and Prices Are Still Declining

Advanced — No Advances. Declined — No Declines.

Trend of the Market	Today	Two Weeks Ago	Last Month	Last Year	War Peak	Pre-War
Benzene, pure tanks wks....gal	.23	.23	.23	.24	1.10	.25
Naphthalene flake .....lb	.04½	.04½	.04½	.05¾	.16	.03
Phenol Spot .....lb	.17	.17	.17	.22	1.50	.08
Toluene tanks wks .....gal	.35	.35	.35	.35		
Aniline Oil le-l	.15	.15	.15	.16	1.40	.10½
Alpha-naphthylamine .....lb	.35	.35	.35	.35	1.28	—
Benzaldehyde .....lb	.70	.70	.70	.70	—	—
Betanaphthol bbls .....lb	.24	.24	.24	.24	1.50	.08
Dimethylaniline e-l	.32	.32	.32	.30	1.30	
Paranitroaniline bbls .....lb	.52	.52	.52	.48	1.58	.18
Average	3.08	3.08	3.08	0.310		

Current Quotations and Comments on Specific Items, Pages 566-576

Benzene prices are decidedly soft due to high selling pressure and slight demand. Open prices are named in many quarters at 24c gal. for tanks but goods are moving freely at 22c gal., and even lower prices are being done in competition. Export buyers are not paying as high prices for their material due to the recovery of the British industry following the coal strike settlement. Gasoline blenders are not taking on increasing supplies with the approach of the warm weather and it looks at the moment as though the market will continue soft throughout the Summer. Production is being well maintained and the partial coal strike now in effect has not as yet affected coking operations as coal reserves above ground before the start of the strikes were sufficient to last well over a month.

Supplies of solvent naphtha and xylene are still begging for bidders. Open prices are unchanged but they do not mean much when a sale is made. Toluene is very strong. Lacquer makers are still demanding supplies in excess of production but producers are able to keep them satisfied.

Cresylic is moving more freely at this time of the year. Naphthalene is in heavy demand but the market is well supplied and prices show no variation.

Demand for intermediates is normal and prices are being quite well maintained. Competition remains sharp in para-toluidine which is in very heavy supply. The recent advance in ortho-toluidine gave the manufacturers an opportunity to reduce prices on para-toluidine and this was done. Intermediates entering into dry color manufacture show no variation. Thus para-nitroaniline, meta-nitrol-para-toluidine, beta-naphthol, R-salt, and mono sulfonic acid are quoted unchanged and are moving steadily.

Dyestuffs are moving in a routine manner. Makers state that demand is only fair due to the fact that the textile industry is none too busy. Prices are still declining sharply and makers have several items on which they state that every time they make a sale they lose money.

Chemical production index figures for February are given at 178 compared with 198 for January and 164 for February of last year taking 1919 at 100 per cent.

DYEING FURS WHITE

Black furs will soon be made white through advances in dyeing, William E. Austin, New York chemist, declares in a paper prepared for Division of Dye Chemistry of American Chemical Society at the meeting at Richmond, April 11.

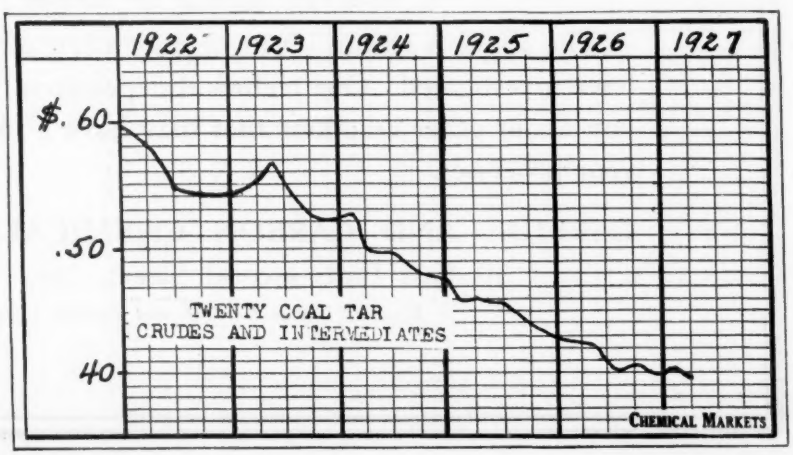
"One of the chief factors in the development of the fur industry in this country during the past decade is the progress made by the fur dyeing branch of the trade," says Mr. Austin. "This is due to the application of modern chemical science and technology in the treatment of furs.

CANADA'S DYE IMPORTS

Imports into Canada of analine and coal tar dyes during January were as follows: From Britain, 6.-411 lbs., value $5,353; United States 105.828 lbs., value $58,015; France, 3,838 lbs., value $2,884; Germany 76,443 lbs., value $44,510; Switzerland 23,059 lbs., value $16,-414; Other countries 185 lbs. value $83. Total 215.764 lbs. value $127,-259, compared with imports during January, 1926, from Britain 10.049 lbs., value $6,447; United States 116.859 lbs., value $67,787; France 275 lbs., value $366; Germany 28.-009 lbs., value $23,403; Netherlands 5.700 lbs. value $5,309; Switzerland 21.602 lbs., value $13.712. Total 182.493 lbs., value $117,024.

February labor employment in the chemical industry shows that employment in January was 30,936 in 119 plants increasing in February to 30,987, a gain of 0.2 per cent. The payrolls in these same plants also increased from $830,613 in January to $845,303 in February.

Buffalo Specialty Co., Buffalo, N. Y., manufacturer of Liquid Veneer furniture polish, has changed its name to Liquid Veneer Corp.



DU PONT

PARA-NITROTOLUENE

and

PARA-TOLUIDINE

Practical manufacturing experience has repeatedly proved that pure ingredients are required for the economical production of fine chemical products.

Para-Nitrotoluene and Para-Toluidine of good quality are needed for the synthesis of Dyes that are true to type and of good tinctorial strength, also for pharmaceuticals which will pass the United States Pharmacopœia requirements.

Buyers of Du Pont Para-Nitrotoluene and Para-Toluidine are assured of deliveries that meet the most exacting quality standards. Ample stocks are always available for prompt shipment.

E. I. du Pont de Nemours & Co., Inc.
Dyestuffs Department, Sales Division

WILMINGTON DELAWARE

Boston New York Chicago
San Francisco

[Oils and Fats]

DENATURED OLIVE OIL ADVANCES HERE AND IN SPAIN

Demand is Small But Market is Very Firm—Chinawood Up Again on Spot and Coast—Stocks Very Limited in All Directions—Perilla Sharply Higher—Demand Good—Linseed Quiet—Cottonseed Unchanged and Quiet—Corn Oil Down—Menhaden Oil Firm.

Advanced

Chinawood Oil spot, bbls., 2c lb.
Chinawood Oil, tanks, Coast, 2c lb.
Menhaden Oil, light press. & yellow bleach., 1c gal.
Neatsfoot Oil, 20 & CP, ¾c lb.
Olive Oil, denatured spot, 5c gal.
Olive Oil, foots, spot, ¼c lb.
Perilla Oil, spot, bbls., 1½c lb.
Perilla Oil, coast tanks 2½c lb.
Perilla Oil, spot bbls., 1½c lb.
Sesame Oil, spot ¼c lb.

Declined

Corn Oil, crude, mills, ½c lb.
Cottonseed Oil, crude, ¼c lb.
Greases, all grades, ¼c lb.
Palm Niger Oil, spot, ½c lb.
Stearine, Oleo, ½c lb.

Average	3.013	3.013	3.012	2.937	10.79	2.99
Lard No. 1 ..... gal	.77	.77	.73	.89	2.90	.92
Neatsfoot 20° ct ..... gal	1.06¾	1.10¼	1.15¾	1.40	8.45	.95
Red Oil distilled ..... lb	.09½	.09¾	.10	.10½	.17	.07
Stearic Acid T. P. ..... lb	.13¾	.13¾	.15½	.16¼	.38	.12
Coconut Ceylon tanks..... lb	.08	.08½	.08⅝	.10¼	.30	.14
Cottonseed, crude tanks..... lb	.07½	.07¾	.07¾	.10½	.25	.08
Linseed crude c-l bbls.....gal	.78¾	.78¾	.80¼	.79½	1.85	.57
Olive, denatured .....gal	1.70	1.60	1.55	1.15	4.60	1.05
Peanut refined ..... lb	.15½	.15½	.15½	.15	.30	.08
Soya Beans bbls ..... lb	.12	.12	.12	.12¼	.19¼	07
Average	4.87	4.87	4.87	4.74	5.92	1.50

Current Quotations and Comments on Specific Items, Page 576-578

Further advances in denatured olive oil both on spot and for shipment and the maintenance of the inflated market on Chinawood oil were features of the oil market over the past week.

The position on olive oil becomes more acute daily as supplies are practically exhausted here and offers for shipment are very meager. On the other hand there is not a large amount of business passing as consumers are not willing to pay what they consider top prices for replacements. However the fact that inquiry is routine and the market holds up only serves to emphasize the strength. Foots are firm and higher on spot and to arrive with a moderate inquiry. Chinawood again advanced and has now definitely passed the 30c lb. mark in all directions with some factors holding for several cents above this level. Offers here are few and there is no oil coming out of China at the minute. The uncertainty in the future lends interest to the position. Oil in tanks is no longer offered here. Perilla oil is coming in for quite a bit of attention and the spot and Coast markets are sharply higher this week, with predictions of further advances by leading factors.

Otherwise there were no startling developments on the market. Cottonseed continues soft. This is in line with the opinion which prevailed in most circles throughout the winter in spite of the better tone at the time. Crude corn oil is likewise lower moving in sympathy with cotton oil at the mills, which is also off a bit. Linseed oil is very quiet at the moment, and though the price has not changed the undertone is easy. Japanese rapeseed oil has been fluctuating of late, but at the moment shows a return to levels which have prevailed for the past two months.

Animal oils and fats are steady in general but the demand is lacking and a survey of the past month shows declines in every item. Red oil and stearic acid are unchanged and reported as moving well.

Kauri gum production is the smallest in years, say reports from Auckland, received by George H. Lincke. February is usually a big producing month. The January production was 265 tons and the February production 198 tons, whereas the exports for January were 445 tons.

Golden West Soap Mfg. Co. has arranged to erect a plant at Nampa, Idaho.

MAGNESITE PRICES IN 1926

Crude magnesite production in the United States in 1926 was 133,500 short tons, valued at $1,200,830, according to statistics compiled by J. M. Hill, of the Bureau of Mines. Four operators at five mines in four counties in California produced 53,940 tons, valued at $604,130; all of them reported only fair business due to foreign competition and lower prices on all products. All the output in Washington was from the mines of the Northwest Magnesite Co., which operated two of its six furnaces at Chewelah, Stevens County, part of the year.

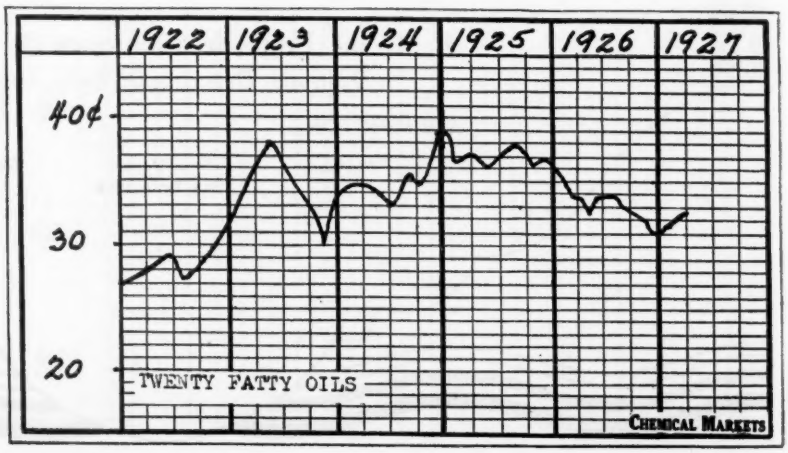
Mason By-Products Co., Sausalito, Cal., has been fined $500 by Federal Judge George M. Bourquin for dumping refuse mash from alcohol distillation into Richardson Bay. The practice had been discontinued before the case was tried and minimum fine was assessed.

C. K. Williams Co., Easton, Pa., has purchased a ten-acre tract at Emeryville, an east-bay suburb of San Francisco, as site for a dry color plant. Work on the factory will begin soon to have it in operation before the close of 1927.

Arthur Orr, sales manager of Commercial Solvents Corp. addressed the Building Owners & Managers last Thursday at luncheon at Town Hall, New York.

Paints and varnishes stored in a warehouse at 407-415 North Holliday st., Baltimore, for shipment by Bond Bros., were destroyed by fire April 7.

Sevier Bonnie, of Kentucky Color & Chemical Co., Louisville, will be married the latter part of April to Miss Judith Gentry Ferrell, Lexington, Ky.



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Dependable Chemicals

[Agricultural Chemicals]

NITRATE FUTURES OFFERED AT SHARPLY LOWER LEVELS

On Free Selling Basis, Imports Offer July-Dec. at $2.10—Sales Improving in South for Spot Goods—Blood Higher Here and Scarce—Tankage Up on the Coast—Sulfate of Ammonia Lower, Though Market is Steady.

Advanced
Blood, dried, N. Y., 10c unit.
Tankage, So. Am., Coast, 25c unit.

Declined
Ammonium Sulfate, spot, 5c 100 lbs.

Trend of the Market

	Today	Two Weeks Ago	Last Month	Last Year	War Peak	Pre-War
Acid Sulfuric 66°.....ton	$15.00	$15.00	$15.00	$14.00	$55.00	$20.00
Amm. Sulfate 100lbs	2.45	2.50	2.55	2.95	1.75	2.65
Arsenic 100lbs	3.75	3.50	3.50	3.25	18.00	4.00
Copper Sulfate c-l 100lbs	4.75	4.75	4.75	4.37½	20.00	4.60
Paris Green	.19	.19	.19	.19	.50	.11
Potash Muriate 80% .....ton	36.40	36.40	35.40	34.90	...	...
Potash Sulfate 90% .....ton	47.30	47.30	46.85	45.85	440.00	48.07
Phosphate Acid 16%.....ton	10.00	10.00	10.00	10.00	11.00	3.00
Phosphate Rock 68% .....ton	3.00	3.00	3.00	3.25	2.65	3.00
Sodium Nitrate 100lbs	2.65	2.67	2.64	2.71	5.00	1.90
Average	12.550	12.532	12.534	11.890	103.50	13.84

Current Quotations and Comments on Specific Items, Pages 546-580

As has been the case for some months past, interest in the fertilizer group centers on the movement of nitrate of soda. Following the announcement that free selling will be effective today, offers were immediately made through importers at levels which confirm the belief that prices for next season will be considerably below those of the season just past. As to the immediate position of the market in this country, sales during the past ten days in Southern territory have been on the increase, but this movement is long overdue and importers hold little hope of any great volume. Production for March amounted to 90,764 lbs. as compared with 228,490 ton in March 1926. Europe lead by a wide margin in the volume taken from Chile during March with 130,000 tons.

Dried blood and tankage in this vicinity are coming in for quite a bit of attention and as neither are in good supply the markets are firm and have an upward tendency. Much the same is true of these items in Chicago and South American tankage on the Coast is sharply higher there. Factors in sulfate of ammonia reduced the price 5c 100 lbs. last week. The market is not particularly weak as the demand is quite satisfactory, but the production has been large and sellers are anxious to place their stocks. The possibility of potash salt prices being affected by the suit instituted by the Government against the so-called German and French trusts is not regarded seriously as yet. Bone meal is fairly active at this time with both imported and domestic holding fairly steady.

Insecticides are moving at a rate which is characterized by the manufacturers as satisfactory. A good portion of the business has been covered by contracts made through the Fall and Winter.

National Fertilizer Association reports shipments of fertilizers to dealers and consumers, for February were only 51.9% of those of February, 1926, but the percentage increase for February over January was larger for this season than last. The decrease from last season was due entirely to the Southern Area, the Northern Area showing an increase of 7.7%.

POLAND'S FERTILIZER

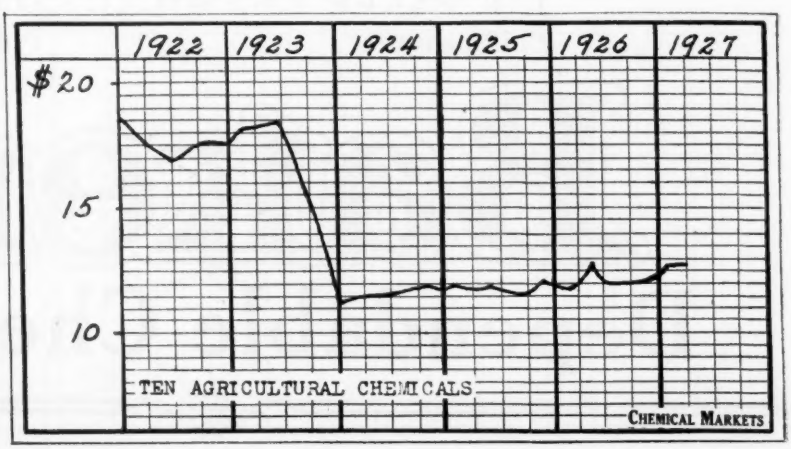
Fertilizer stocks in Poland (wholesalers and dealers) are short, writes Commercial Attache Allen, Warsaw.

Production of Chorzow factory amounts to 100,000 metric tons of nitrogenous salts and only 40 to 50 metric tons of potassium nitrate potash. A certain part of last season's production has been turned into ammonium nitrate, of which 30 per cent has been exported and the balance consisting of some 12,000 metric tons purchased by the Sugar Bank. In addition to the above, rumors are current that there will not be enough of nitrogenous fertilizers in Poland this season to cover the demand of agriculture. According to a decree of the Minister of Finance in conjunction with the Ministers of Agriculture and of Industry and Commerce, nitrate fertilizers imported into Poland pay no duty. The decree took effect Feb. 28, 1927, and is valid for three months.

American Cyanamid Co., Niagara Falls has filed complaint with Interstate Commerce Commission against Michigan Central Railroad Co., in which it asks for reasonable rates on cyanamid from Niagara Falls to Cincinnati, and New Albany, Ind., destined to southeastern points. The firm claims reparation of $20,000

Sulfuric acid from gypsum was the result of scarcity of pyrites in Germany, during the war, but the burg has been closed. The gypsum sulfuric acid process of the Farben-process was not successful commercially.

Robert H. Dippy, advertising agency, Philadelphia, has been appointed to handle the advertising account of Little Brown Jug, Inc., of Reading, Pa., manufacturers of "Fly Hootch."



In Addition

to our Aero Brand

Yellow Prussiate of Soda and
Yellow Prussiate of Potash

We are now offering

Red Prussiate *of* Potash

as exclusive sales agents in the U. S. and Canada
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535 Fifth Avenue , , , New York, N. Y.

[Industrial Raw Materials]

ROSINS HIGHER, TURPENTINE LOWER WITH NEW SEASON

All Spot Rosins Higher—Turpentine Continues to Decline—Tanning Materials Active—Wattle Bark Up—Vermilion Up Sharply—Red Lead and Litharge Fractionally Lower—Orange Mineral Down—Varnish Gums Easy and Subject to Shading—Casein Up.

Advanced

Albumen, edible egg 1c lb.
Antimony, metal, spot ¼c lb.
Casein, stand. ground, 2½c lb.
Divi Divi, pods, $1.50 ton
Egg Yolk, spot, 1c lb.
Myrobalans, J2's, spot, $1.50 ton
Rosins, B, WW, 50c 280 lbs.
Rosins, D, E, 25c 280 lbs.
Rosins, F, N, 45c 280 lbs.
Rosins, G ,H, 20c 280 lbs.
Rosins, I, K, 15c 80 lbs.
Rosin, M, 5c 280 lbs.
Sumac, ground, $1.00 ton
Wattle Bark, spot, $2.00 ton

Declined

Gum Sandarac, spot, 1c lb.
Lead, red, spot, ¼c lb.
Litharge, spot, ¼c lb.
Turpentine, spot, 2c gal.

Current Quotations and Comments on Specific Items, Pages 238-240

An advance in all grades of rosins over the past week on spot was of interest, particularly at a time when new crop arrivals were expected to depress the market temporarily. Instead prices have held up quite well and with a fairly good inquiry and some export business reported in the South, the market presents a firm aspect. The same is not true of turpentine, which continues to slide off with a net loss of 2c gal. for the week past. At Savannah the market is characterized as steady

Tanning materials continue as one of the firm features of this group, this being particularly so of wattle bark and valonia beards, both of which are extremely high for shipment and scarce. Starches and dextrins are moving at an average gait with no price changes. Egg yolk and albumen are firm and higher here, principally due to the uncertainty of replacements from China. Vegetable albumen continues to move well, particularly for export to Europe. Waxes are all steady and show no changes over the week. Varnish gums are routine and there is a noticeable tendency on the sellers part to shade when an order is on the market. Red lead and litharge are down on lower raw material costs. Vermillion, both domestic and English are sharply higher in all directions. Imported standard ground casein has advanced.

(*Special to* CHEMICAL MARKETS)

Savannah, Ga., April 11—Turpentine closed last week steady at 61½c gal. on limited sales of 100 bbls. leaving 38 bbls. unsold without bids. It was learned later that this lot was disposed of at the market. With heavy receipts expected during the coming week buyers are holding off expecting a lower market. In some quarters this is doubted and it is asserted that the market should hold at current levels, as with the market at its present levels, orders are expected in enough volume to hold it up. Receipts of turpentine last week 2,716 bbls.; sales reported, 776 bbls.; (over 1500 bbls. sold on private terms); shipments, 1,376 bbls.; Savannah stocks, 5,317 bbls.

Though rosins show declines for the day the market is steady at the moment, and nearly all grades are higher than a week ago. Sales of 558 bbls. were reported to one buyer on Saturday. There were as many as six buyers bidding for rosin during the middle of last week and the opinion prevails here that a good demand may be expected for some time. Of course lower prices are looked for at the height of the arrival season here, but on the whole medium and fine grades should show an average of slightly over current levels for the season. There is considerable rosin being put into condition to ship. Aftr the close on Saturday, 564 bbls. were sold to two buyers. Receipts last week were 7,552 bbls., sales reported, 3289 bbls.; P.T. sales 7,552 bbls.; shipments, 3601 bbls.; Savannah stocks, 29,209 bbls.

Jacksonville, Fla., April 9—There were no sales of turpentine today with the market steady and unchanged. Rosins are steady with sales of 491 bbls. to two buyers and leaving 523 bbls. unsold. Turpentine stocks are 18,105 bbls. and rosin stocks, 34,856 bbls.

Stocks of slab zinc in the hands of American producers on April 1 were 36,279 short tons, against 32,938 tons on March 1, an increase of 3,341 tons for the month. Shipments in March totaled 53,205 tons. The output was 56,546 tons, and retorts operating at the end of the month numbered 83,208,

HAMBURG TRADE BRISK

(*Special to* CHEMICAL MARKETS)

Hamburg, April 2—Export business in Heavy Chemicals has been satisfactory during the last fortnight; especially to China, considerable business being done, owing to the tendency of the Chinese importers to eliminate British sellers. Also business to Japan was better than in March. Exports to United States and to South America are small at present. European business in almost all products is suffering from the uncertain political situation; the mutual business relations with France are more certain than before since the provisional commercial agreements have come to a conclusion; definite settlement in this respect between France and Germany is expected to come into force by June 30, when the provisional agreement will expire. German home trade was showing brisk demand for almost all items for the leather industry; sodium sulfide and hyposulfite of soda are still at unchanged prices. Prices of citric acid and tartaric acid showed further advance. Blue vitriol and copperas have a good market, also naphtalene which is scarce for prompt delivery. Glycerin is showing a downward trend. Prices in dollars are per 100 kilos, in pound sterling per 1000 kilos f.o.b. Hamburg:

Caustic potash $13.50; hyposulfite of soda commercial Cryst. £8; barium carbonate $3.05; epsom salts commercial Cryst. £1.18s.; epsom salts U.S.P. Cryst. £4.5s.; borax powdered £19.10; borax Cryst. £19.; calcium chloride 70-75% £3.2s. 6d.; barium chloride $3.40; chlorate of potash powdered $11.; carbonate of ammonia lumps £23.-10s.;yellow prussiate of potash £64; red prussiate of potash $63.; potash alum powdered £6.17s.6d.; naphthalene flakes £13.2s.6d; naphthalene balls £13.5; calc. potash 96-98% $11.40; sal Ammoniac 98-100% $8.30; sodium sulfide 60-62% fused £8.12s.6d.; citric acid £145;tartaric acid $59.50; oxalic acid £25.13s.; blue vitriol £22; potassium bromide $70.; sodium bromide $72.; permanganate of potash £37.10s.

German I. F. (Interessengemeinschaft Farben Industrie has asked the Chilean Government for the exclusive patent rights to a process which is described as destined to improve the production of Nitrate in Chile. The Cartel is the most formidable competitor of Chilean producers in the European markets. Its product is manufactured by the Haber process.

GENERAL CHEMICAL COMPANY

ANHYDROUS BISULPHITE SODA

General Chemical Company's Products include also:

GLAUBERS SALT
DISODIUM PHOSPHATE
TRISODIUM PHOSPHATE
ACETIC ACID
SULPHURIC ACID

And other Heavy Chemicals of Standard Purity

REAGENT CHEMICALS

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In the chemical industries UNIFORMITY is a much used and often abused term. Yet with the most rigid interpretation, its ten letters spell out that quality of General Chemical Company's Anhydrous Bisulphite Soda which gives it the characteristics that promise enduring satisfaction. Its freedom from iron salts warrants confidence in employing it in the most delicate dye, bleach or other processes.

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THE NICHOLS CHEMICAL CO., LTD., MONTREAL

Prices Current

Heavy Chemicals, Coal-tar Products, Dye-and-tanstuffs, Colors and Pigments, Fillers and Sizes, Fertilizer and Insecticide Materials, Naval Stores, Fatty Oils, etc.

Chemical prices quoted herein are those of American manufacturers for goods, spot New York, f. o. b., or ex-store, for immediate shipment, unless otherwise specified. Industrial chemical products sold principally on a basis of f. o. b. works are specified as such. Quotations on imported chemicals are so designated. Resale stocks sufficient to be a factor in the market, are quoted in addition to makers' prices and are indicated as "second hands."

Oils and fats are quoted spot New York, or ex-dock. Quotations on products sold f. o. b. mills, or spot Pacific Coast are so designated.

Industrial raw materials are quoted spot New York, f. o. b., or ex-dock. Materials sold f. o. b. works or delivered at various sections of the country are so designated.

The range of prices given is not "bid and asked," but indicates quotations from different sellers, based on varying grades or quantities or both. Containers named are the original packages most commonly used in the New York market.

Chemicals

Acetaldehyde drs., or cyl. c-l wks	lb	...	.22
lc-l wks	lb.	.24	.26
ACETANILID, tech 150 lb bbls	lb	.20	.21
100 lb kegs	lb	.22	.23
Acetic, Anhydride			
85% 100 lb cbys	lb,	.27	.30
92-95% 100 lb cbys	lb	.29	.35
Acetic Ether, see Ethyl Acetate			
Acetine 50gal drums	lb.	.37	.40
Acetone, CP, 700 lb drs c-l wks	lb	...	.12
Tank cars, wks	lb	...	.12
350 lb drs. lc-l wks	lb	...	.14
700 lb drs., lc-l wks	lb.	.13	.13½
Acetone Oil light drs N. Y.	gal	1.65	1.75
Heavy, drs NY	lb	1.65	1.75
Acetyl Chloride, 100 lb cbys	lb	.42	.45
Acetylentetrabomide	lb	...	1.50
ACID, Acetic, 28% 400 lb bbls c-l wks	100 lb	...	3.38
56% c-l wks	100 lb	...	6.34
70% bbls c-l wks	100 lb	...	7.82
80% com'l bbls c-l wks 100 lb		...	8.77
80% pure bbls c-l wks 100 lb		...	9.75
Glacial bbls c-l wks	100 lb	...	11.92
Glacial USP cby wks	10 lb	...	12.65
Lc-l 25c 100 lbs differential			
Anthranilic, tech.. drs	lb	...	.80
99-100% 100 lb drs	lb	.98	1.00
Benzoic, tech., 100 lb bbls	lb	.57	.60
Boric crys., powd., 250 lb bbls	lb	.08½	.11
Kegs 100 lb	lb	.09½	.12
Carbolic, crys., see Phenol			
Crude 35% 50gal bbls	gal	.31	.33
10% 50gal bbls		.25	.28
Carbonic, see Carbon dioxide			
Chloracetic			
Mono 100 lb bbls wsk	lb	...	.25
Di. 150 lb crbys wks	lb.	...	1.00
Chlorosulfonic 1500 lb drs wks	lb	.15	.16
Chromic 98% 400 lb drs	lb	.37	.40
Chromotropic, 300 lb bbls	lb	1.00	1.06
Citric, USP, cryst 230 lb bbls	lb	.43	.43½
Powd, USP, 200 lb bbls	lb	.44	.44½
Imported crbys 112 lb kegs	lb	.43	.43½
Cleve's' 250 lb bbls	lb	.95	.97
Cresylic, 95% dark drs NY	gal	.57	.60
97-99% pale NY	gal	.60	.65
Formic, 85% tech., 140 cbys	lb	.10½	.11
Gamma, 225 lb bbls wks	lb	1.00	1.06
H 225 lb bbls wks	lb.	.57	.63
Hydrobromic , 48% com'l 155 lb cbys wks	lb	.45	.48
Hydrochloric (see Acid Muriatic)			
Hydrocyanic wks cyl	lb	.80	.90
HYDROFLUORIC, 30% 400 lb bbls wks	lb	...	.06
30% 100 lb cbys wks	lb	...	.08
48% single 100 lb cbys wks	lb	...	.10
52% 100 lb cby., wks	lb	...	.12
52% 100 lb cbys wks	lb	...	.11
60% 100 lb cby wks	lb	...	.14
60% 300 lb dr wks	lb	...	.13
White Acid 100 lb cby wks	lb	.25	.26
Hydrofluosilicic, 35% 450 lb bbls wks	lb	...	.11
J kegs wks	lb	...	3.00
LACTIC, 22% dark 500 lb bbls	lb	.05½	.06
22% light bbls	lb	.06½	.07
44% dark bbls	lb	.11	.12
44% light bbls	lb	.13	.13½
Laurent's 250 lb bbls	lb	.52	.54
Tank Cars	gal	...	.33½

Acetone—Steady export demand continues to absorb all supplies that do not find an outlet in this country and thus the market is firm and prices are unchanged.

Acid Acetic—Schedule prices are being maintained in practically all directions and demand continues to expand with the steady expansion of the lacquer industry.

Acid Muriatic—Steady movement is reported by makers who quote firm unchanged prices.

Acid Nitric—Market is firm and unchanged in all directions.

Acid Monosulfonic—Market is steady at $1.65 lb. for single barrels with color makers withdrawing supplies regularly.

Acid Oxalic—Scarcity continues and the market is just as firm.

Acid Phosphoric — Market is quiet but prices are steady and unchanged.

Alcohol Butyl—Domestic maker quotes prices recently reduced for April deliveries to a basis of 18½c lb. for tank cars on contract. Lower corn is responsible for the reduction.

Alcohol Denatured — Distillers are maintaining prices at recent advance of 8½c gal. to a basis of 37½c gal. for tanks of C. D. 5. While it might be possible to pick up some outside material at lower prices due to speculative purchases made before the advance, first hands are very firm and predict further advances. Inquiry is very active at the new levels and it is expected that orders will follows as soon as buyers realize that the market is really firm. With molasses prices at present prices, distillers cannot shade prices without losing money.

Ammonia Anhydrous—Conditions surrounding this product are un-

ACID, HYDROFLUORIC (Cont'd)			
ACID, Metanilic, 250 lb bbls	lb	.60	.65
Mixed, Sulfuric-nitric			
Drums, wks	N Unit	.07¾	.08
Drums wks	S Unit	.01	.01½
Tank cars, wks	N Unit	.06	.0½
Tank cars, wks	S Unit	.008	.01
Monosulfuric F Delta 50 lb tins	lb	...	.65
MURIATIC, 20° cbys wks 100 lb		1.70	1.80
cbys c-l wks	100 lb	...	1.45
Tank cars wks	100 lb	...	1.05
18° 120 lb cbys c-l wks	100 lb	...	1.35
Tank cars, wks	net ton	...	.95
Naphthionic tech, 250 lb bbls	lb	.55	.59
N. & W. 250 lb bbls	lb	.95	.99
NITRIC 38° 135 lb			
Cbys c-l wks	100 lb	...	5.00
40° cbys c-l wks	100 lb	...	6.00
42° cbys c-l wks	100 lb	...	6.50
Lc-l 25c 100 lbs, differential			
CP, cbys single wks	100 lb	.12	.13
Oxalic, 300 lb bbls wks N. Y.	lb	.11	.11¼
Imp., 560 lb casks	lb.	.11⅝	.12
Phosphoric, 50% 150 lb cbys	lb	.07	.07½
Syrupy USP, 70 lb drums	lb	...	.17
Demis	lb	...	.18
Imported.	lb	.16	.16½
Phthalic, See Phthalic Anhydride			
Picramic, 300 lb bbls	lb	...	.50
Picric, 450 lb bbls c-l	lb	.30	.33
Pyrogallic tech 200 lb bbls	lb	...	.85
S kegs	lb	...	2.50
Salicylic tech., 125 lb bbls	lb	.27	.32
Sulfanilic, 250 lb bbls	lb	.15	.16
SULFURIC, 66° 180 lb cbys lc-l wks	100 lb	1.60	1.95
Cbys c-l wks	100 lb	...	1.35
1,500 lb drums wks	100 lb	...	1.20
Drums c-l wks	100 lb	...	1.00
Tank cars, wks	net ton	...	15.00
60° 1,500 lb drums wks	100 lb	...	1.10
Drums c-l wks	100 lb	...	.87½
Tank cars, wks	net ton	...	10.50
C.P. 175 lb cbys	100 lb	.07	.08
Oleum 20 pc 1500 lb drums lc-l wks	100 lb	...	1.50
Drums c-l wks	100 lb	...	1.25
Tank cars, wks	net ton	18.00	19.00
Oleum 40% drs lc-l wks	net ton	...	42.00
Oleum 60% drs wks	net ton	62.00	72.00
Tannic, tech., 300 lb bbls	lb	.30	.40
Tartaric, USP, cryst powd 300 lb bbls.	lb	...	.33
Imp., USP., 240 lb bbls	lb	...	.33
Tobias 250 lb bbls	lb	...	.85
Tungstic, 100 lb kegs	lb	...	1.00
ALCOHOL, amyl See Fusel Oil			
Butyl Normal 50gal drs wks c-l	lb	.19	.20
Drums lc-l wks	lb	.19½	.20½
Tanks cars wks	lb	.18½	.19½
Butyl tertiary 50gal drums	gal.	.50	.54
Diacetone, 50gal drs del.	gal	1.70	1.90
Ethyl, USP 190pf 50gal bbls	gal	...	3.70
Anhydrous, drums	gal	.50	.55
Denatured			
50gal bbl incl	gal	...	.46½
Carlots	gal	...	.44½
50gal drums extra	gal	...	.39½
Tank cars	gal	...	.37½

Acetaldehyde
Acid Laurent's

Acid Metanilic
Alcohol Ethyl Denatured

1857 - Pioneer Manufacturers for Seventy Years - 1927

For Paint Plating & Agriculture

Copper Carbonate

Pure Precipitated in 400 lb. barrels

Makes an excellent light green paint, with good body and covering power.
For Platers, yields the maximum plate per pound and *more* plate per hour.
In Flag Smut of Wheat and Loose Smut of Oats increases stand and saves losses.

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CHAS. COOPER & COMPANY

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Mallinckrodt

CITRIC ACID U.S.P.

CRYSTALS - GRANULATED - POWDERED

Barrels, Kegs and Subdivisions

All Citrates including

POTASSIUM CITRATE

SODIUM CITRATE

CITRATES OF IRON, ETC.

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CHEMICAL E.C.KLIPSTEIN AND SONS CO MANUFACTURERS

ALUMINUM CHLORIDE

(Sublimed Anhydrous)

Highest Purity
Prompt Delivery
Attractive Prices

Sulphur Black
Anthraquinone
Beta Methyl Anthraquinone
Aluminum Chloride (Anhydrous)
Dyestuffs
Soda Hyposulphite

E.C. KLIPSTEIN & SONS CO.

644-652 Greenwich St., New York

Chemicals

ALCOHOL, Ethyl, Denatured	...	:	...
No. 1 Special denat 190 pf			
50gal bbl incl.....gal	...	:	.49
Carlots .....gal	...	:	.47
50gal drums extra....gal	...	:	.42
Tank cars .....gal	...	:	.40
No. 5 Complete denat. 188pf			
50gal bbl incl.....gal	...	:	.46½
Carlots .....gal	...	:	.44½
50gal drums extra....gal	...	:	.39½
Tank cars .....gal	...	:	.37½
Isopropyl, refined, 90-91% 50 gal drs .....gal	1.00	:	1.25
Propyl anl., 50gal drs.....lb	...	:	1.00
Ref'd 98-99% drs .....gal	1.25	:	1.50
Aldehyde Ammonia, 100gal drums lb	.80	:	.83
Alpha-Naphthol crude 300 lb bbls lb	...	:	.65
Refined .....lb	.85	:	.90
Alpha-Naphthylamine, 350 lb bbls lb	.35	:	.37
ALUM, Ammonia, lump 400 lb bbls			
wks lc-l .....100 lb	3.15	:	3.50
Ground 400 lb bbls wks 100 lb	3.25	:	3.65
Powd, 380 lb bbls wks 100 lb	3.65	:	3.90
Chrome, 500 lb cks, wks lb	5.25	:	5.50
Potash, lump, 400 lb wks 100 lb	3.50	:	3.75
Bbls c-l wks.....100 lb	3.35	:	3.40
Imported lump .....100 lb	...	:	3.25
Ground, 400 lb bbls wks 100 lb	3.50	:	3.85
Imp., 350 casks .....100 lb	2.65	:	3.00
Powd., 380 lb bbls wks 100 lb	3.50	:	4.00
Chrome, 500 lb casks wks 100 lb	5.25	:	5.50
Soda Grd., 400 lb bbls wks 100 lb	...	:	3.75
Bbls., c-l wks ....100 lb	...	:	3.50
Aluminum metal, c-l NY....100 lb	...	:	26.00
Chloride, anhyd 275 lb drs....lb	.35	:	.40
Crystals, 375 lb bbls....lb.	...	:	.06¾
30% sol., 120 lb cbys..lb	...	:	.08
Hydrate 96% light 90 lb bbls lb	.17	:	.18
Hvy., 62-64% 220 bgs lb	.06	:	.06¼
400 lb bbls wks.....lb	.06¼	:	.07
Stearate, 100 lb bbls.....lb	.23	:	.24
SULFATE, Iron-free bags c-l			
wks .....100 lb	...	:	1.75
Bbls c-l wks.....100 lb	...	:	1.90
Imported, spot ....100 lb	1.60	:	1.65
Com'l bags c-l wks 100 lb	1.35	:	1.40
Bbls c-l wks .....100 lb	...	:	1.55
Amidol (See Diaminophenol)			
Aminoazobenzene, 110 lb kegs...lb	...	:	1.15
AMMONIA, anhyd. 100 lb cyl...lb	.11	:	.12¼
Water, 26° 800 lb drs del....lb	...	:	.03
Drs., c-l delivered.....lb	...	:	.03¾
Tanks .....lb	.02¼	:	.02½
CP cbys .....lb	...	:	.12
Acetate, 100 lb kegs.....lb	...	:	.24
Bifluoride, 300 lb bbls.....lb	.21	:	.22
100 lb kegs .....lb	.22	:	.23
Bromide, 450 lb bbls 50 lb bxs lb	...	:	.55
Imported, 112 lb boxes....lb	.50	:	.52
Carb. tech.. 500 lb cases....lb	.08¾	:	.09
Powd., tech., 550 lb cks lb.	.07¼	:	.07¾
USP, lump 100 lb kegs ...lb	.11	:	.11½
Powd. 100 lb kegs ....lb	.13	:	.13½
Chloride White 250 lb bbls wks lb	.06½	:	.06¼
250 lb bbls c-l wks .....lb	...	:	.06
Imp. white 600 lb cks lb	...	:	.05½
C.P. USP, gran bbls ...lb	.13	:	.13½
Gray, 250 lb bbls wks ....lb	.07	:	.07½
Bbls., c-l wks .....lb	...	:	.07
Imp. gray 550 lb casks .lb	.06	:	.06¼
Lump, 500 lb casks spot ..lb	.11	:	.11¼
Lactate, 500 lb bbls .....lb	.15	:	.16
Refined Crystals bbls .....lb	...	:	.20
Oxalate, pure 100 lb kegs ...lb	.35	:	.37
Persulfate, 112 kegs .....lb	.27½	:	.30
Phosphate, dibasic 200 lb bbls lb	...	:	.33
Tech., powdered 325 lb bbls lb	...	:	.18
Mono, 325 lb bbls .....lb	.12	:	.12½
Sulfate, bulk c-l .....100 lb	...	:	2.45
Southern points ....100 lb	...	:	2.50
Imp., 200 dbl bgs fas 100 lb	...	:	2.50
Sulfocyanide tech., 100 lb kgs lb	.40	:	.45
Amyl-Acetate, tech., 50gal drs gal	...	:	2.25
Refined 50gal drums ....gal	2.40	:	2.50
Alcohol, see Fusel Oil			
ANILINE OIL, 960 lb drums ...lb	.15	:	.16
Salt 200 lb bbls .....lb	...	:	.24
Anthracene, 80-85% 600 lb casks wks .....lb	.60	:	.65
Anthraquinone, sub 125 lb bbls lb	.90	:	1.00
Antimony metal slabs tons lots lb	.14	:	.14¼
Needle powd 100 lb cs lb	.15¼	:	.16

changed. Supplies are very heavy but prices are as low as makers dare to make them. Some improvement is anticipated with the warm weather in June.

Ammonia Aqua—Moving at unchanged prices. Market remains greatly over-produced and competition is sharp.

Ammonium Sulfate — Factors have reduced the price in this territory to $2.45 100 lbs. In other sections the price holds at $2.50 100 lbs. Sales are in good volume, but production has been large and sellers are desirous of moving stocks.

Aniline Oil—Makers are firm in their prices which show no change. Demand is of fair routine volume.

Arsenic—Domestic material is making the market and carlots of kegs remain firm at 3¾c lb. Demand is improving due to the approach of the insecticide season.

Barium Chloride — Demand is fair but prices are low. Domestic material is bringing $60.00 ton on spot and imported material is offered for shipment at $58.00 ton.

Benzene—This market is very weak. On April 1 some distributers and producers raised their open prices 1c gal. to a basis of 24c gal. for tanks at mills. But this price was thought to be merely a gesture made with the start of the coal strike. As a matter of fact the market seems to have gone the other way and material has moved quite freely at 22c gal., and on some occasions at prices well below this figure. Export demand is not paying high prices any more and the weak gasoline market is not taking large supplies anyway.

Benzidine Base—Market is quiet but firm in all directions at unchanged prices.

Beta-naphthol—Makers report a good demand with prices steady.

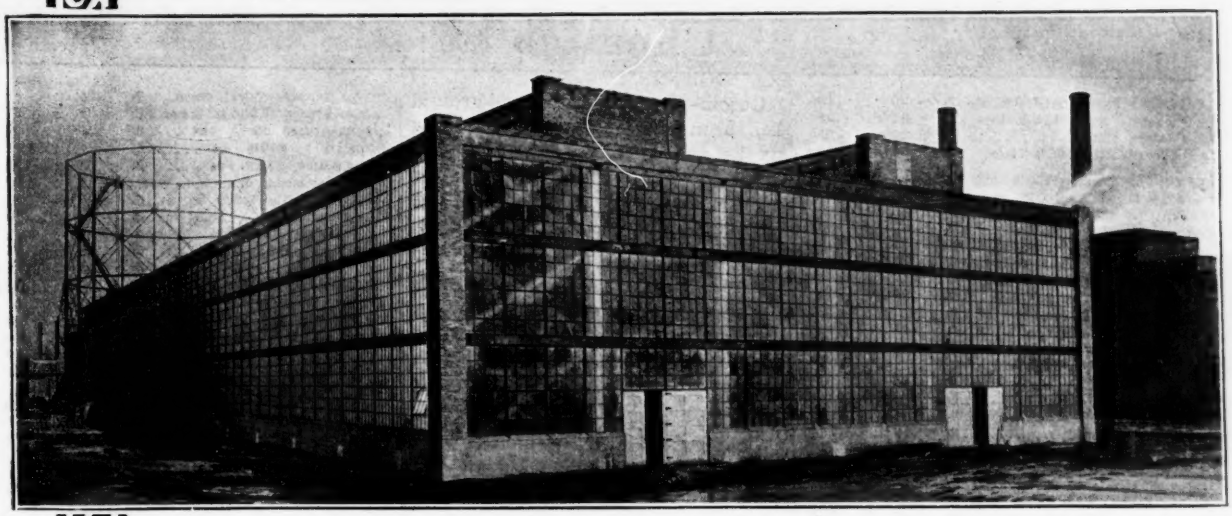
Bleach—Market is steady and prices unchanged.

Bordeaux Mixture—Makers have not changed their price. Consumers are buying in fair volume and the market is generally steady.

Calcium Acetate—Heavy demand for acetic acid continues to hold at firm unchanged prices.

Carbon Tetrachloride — Makers report a continuance of firm unchanged prices and good demand.

ANTIMONY CHLORIDE, anhyd 1000 lb			
drs .....lb	.16	:	.17
50 lb crocks .....lb	.45	:	.48
Sol'n 130 lb carboys 48° lb	...	:	.17
Oxide, 500 lb bbls .....lb	.16¼	:	.17
Sulfuric golden, 250 lb bbls lb	.15	:	.16
Crimson 250 lb bbls ....lb	.25	:	.27
Vermilion, 250 lb bbls ....lb	...	:	.37½
Tartrolactate, 500 lb bbls ....lb	...	:	.45
Arsenic metal 220 lb kegs .....lb	.45	:	.50
Red, 224 kegs cases ....lb	.10½	:	.11
White, 112 lb cases NY.....lb.	...	:	.03¾
BARIUM BINOXIDE, see Barium dioxide			
Carbonate 300 lb bbls wks ..ton	50.00	:	52.00
200 lb bgs wks .....ton	47.50	:	50.00
Imports, casks NY .....ton	47.00	:	48.00
Chlorate, 112 lb kegs NY ....lb	.12	:	.12¼
Chloride, 800 lb bbl wks ...ton	61.00	:	63.00
200 lb bgs wks.....ton	60.00	:	62.00
Imports spot .....ton	60.00	:	62.00
Dioxide, 88% 690 lb drs ....lb	.13	:	.13½
Import, 86-88% 400 lb drs lb	.13	:	.13½
Hydrate, 500 lb bbls .....lb	.04¾	:	.04¾
Nitrate, 700 lb cks.....lb	.07¼	:	.08
Sulfocyanide 600 lb bbls .....lb	.27	:	.28
Barytes, floated 350 lb bbls wks ton	23.00	:	24.00
Imported .....ton	29.00	:	33.00
Benzaldehyde tech. 945 lb drs wks lb	.65	:	.70
BENZENE			
Comm, 90% 8,000gal tks wks gal	.22	:	.24
Commercially pure tks wks...gal	.22	:	.24
Drum lots 5c gal higher			
Benzidine Base, dry 250 lb bbls lb	.70	:	.74
Benzol, see Benzene			
Benzoyl Chloride 500 lb drs ....lb	...	:	1.00
Benzyl Acetate 100 lb cbys ....lb	1.30	:	1.40
Benzoate, bulk .....lb	1.15	:	1.35
Chloride 95% tech 925 lb drs lb	...	:	.25
100 lb cbys .....lb	.25	:	.30
BETA-NAPHTHOL 250 lb bbls wks lb	...	:	.24
c-l .....lb	...	:	.22
Sublimed .....lb	.55	:	.60
Beta-Naphthylamine tech 200 lb bbls .....lb	.63	:	.67
Sublimed, 200 lb bbls .....lb	...	:	1.35
Blanc Fixe, dry 400 lb bbls wks ton	80.00	:	90.00
Imported, bbls .....ton	70.00	:	72.00
Paste, 650 lb bbls c-l ..ton	45.00	:	55.00
BLEACHING POWDER, 700 lb drs			
c-l wks contract ....100 lb	...	:	2.00
c-l spot wks . ....100 lb	...	:	2.10
300 lb drs c-l wks contract 100 lb	...	:	2.25
c-l spot wks .....100 lb	...	:	2.35
lc-l 15c 100lbs differential			
Blues, bronze Chinese, Milori			
Prussian Soluble .....lb	.30	:	.33
Blue Vitriol, see Copper Sulfate			
Bone Ash, 100 lb kegs .....lb	.06	:	.07
Black, 200 lb bbls .....lb	...	:	.08¼
Borax, crys., 500 lb bbls .....lb.	.04½	:	.05
Powdered, 300 lb bbls .....lb	.04¾	:	.04½
Kgs 100-150 lb .....lb	.04¾	:	.05¼
Bordeaux Mixture, 16% pd ....lb	.11	:	.12
Paste, bbls .....lb	.08	:	.10
Bromide, see potass. bromide etc			
Butter of Antimony, see Antimony Chloride			
Butyl Acetate normal tk drs wks gal	1.42	:	1.45
Drums c-l wks .....gal	1.44	:	1.47
Drums, lc-l wks ..gal.	1.47	:	1.50
Secondary 50gal drums ...gal	1.00	:	1.05
Aldehyde 50gal drs wks ....lb	.70	:	.75
Propionate, drs .....lb	.34	:	.36
Stearate 50gal drs .....lb	...	:	.60
Tartrate drs .....lb	.57	:	.60
CADMIUM, metal 100 lb bxs ..lb	.70	:	.75
CALCIUM Acetate 150 lb bgs c-l			
100 lb	...	:	3.50
Arsenate, 100 lb bbls c-l wks lb	.07½	:	.08
Bromide, 100 lb cs .....lb	...	:	.60
Carbide, 220 lb dr c-l wks ..lb	.05½	:	.06¼
Carbonate, tech 100 lb bags			
c-l .....100 lb	1.00	:	1.10
USP, precip, 175 lb bbls ..lb	...	:	.06½
Chloride, solid 650 lb drs c-l			
f.o.b. wks .....ton	21.00	:	23.00
Drums delvd. NY ..100 lb	1.74	:	1.89
Imp., Shipment .....ton	...	:	19.50
Flake, 375 lb drs c-l drs f.o.b.			
wks .....ton	...	:	27.00
Drums delvd. NY ..100 lb	2.04	:	2.19
Bags delvd NY ..100 lb	2.04	:	2.19
Nitrate, 220 lb bbls c-l NY ..ton	...	:	52.00



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INDIANA

Plants—Terre Haute, Ind., and Peoria, Ill.

Calcium Phosphate
Dibutyl Phthalate

Chemicals

Dibutyl Tartrate
Glycerin

CALCIUM, Phos., tech450 lb bbls	lb	.09	.10
Phosphate mono, 325 lb bbls	lb	.07	.08
Stearate, bbls	lb	.23	.25
Sulfocarbolate, 100 lb kegs	lb	.53	.57
CAMPHOR, Amer. ref250 lb bbls	lb	...	.72
2½ lb slabs, 100 lb cs	lb	...	.73½
Jap., ref slabs 100 lb cs	lb	.69	.70
Powdered	lb	...	.80
Crude, 100 lb cs	lb	.54	.56
Carbon Bisulfide 500 lb dr lc-l NY	lb	.05½	.06
c-l drums NY	lb	...	.05¾
Carbon Black, c-l wks bags	lb	.08	.09
100-300 lb cases lc-l NY	lb	...	.12
Decolorizing 40 lb bags c-l	lb	.08	.15
90 lb drums c-l	lb	.08¾	.15¾
Carbon Dioxide, Liquid 20-25 cy	lb	...	.06
Tetrachloride, 1400 lb drs del	lb	.07	.07½
Drums c-l delivered	lb	...	.06¾
Casein, edib., 100 lb kegs	lb	.45	.65
Standard ground	lb	.18¼	.18½
Caustic Potash see potash, caustic			
Caustic Soda, see soda, caustic			
Cellulose Acetate, 50 lb kegs	lb	...	1.40
Cerium Oxalate USP, 100 lb kegs	lb	.33	.35
Chalk, drop 175 lb bbls	lb	.03	.03¾
Precip., light 250 lb bbls cake	lb	...	.04½
Precip., heavy 560 lb casks	lb	.02¼	.03½
Bulk	ton	...	5.00
Precip, English 7 lb bags	lb	...	.08½
Precip., heavy 560 lb casks	lb	.03½	.03¾
Chinese Blue, See Blue			
Chloramine USP, 200 lb bbls	lb	...	1.75
Chlorocosane 5 lb bot	lb	.55	.65
Chlorhydrin, Ethylene See Ethylene			
CHLORINE, Liquid tank or multi-unit car wks contract	lb	...	.04
Tank car spot wks	lb	...	.04¾
Carlots cyl wks contract	lb	...	.05½
spot wks	lb	...	.05¾
lc-l cyl wks contract	lb	.08	.09
Spot wks	lb	.08¼	.09¼
Chlorobenzene, mono, 100 lb drs wks lc-l	lb	...	.07
CHLOROFORM, USP, 50 lb drs	lb	...	.30
Second hands 650 lb drs	lb	.27½	.28½
Technical 1,000 lb drums	lb	.20	.22
Chlorophyll Oil Sol.	lb	3.75	4.00
Water Sol	lb	.75	4.00
Chromium Acetate 20° sol'n 400 lb bbls	lb	...	.05½
Fluoride, Powd., 400 lb bbls	lb	.27	.28
Oxide, Green bbls	lb	.34½	.35½
Chrome Green, CP	lb	.26	.29
Comm.	lb	.06½	.11
Chrome Yellow	lb	.17	.18½
Clay c-l Bulk, Del.,	ton	16.00	18.00
Powdered 125 lb bags	ton	...	20.00
Coal Tar, See Tars			
Cobalt metal 100 lb kegs	lb	2.50	3.00
Cobalt Oxide 500 lb bbls	lb	2.00	2.10
10 lb tins 200 lb cases	lb	...	2.20
COPPER, metal electrolytic	100 lb	12.95	13.00
Lake c-l NY	100 lb	13.00	13.12½
Carbonate 400 lb bbls	lb	.16¾	.17¼
Chloride 250 lb bbls	lb	...	.28
Cyanide 100 lb drs	lb	.48	.50
Oxide, red 100 lb bbls tons	lb	.16½	.17
Sub-acetate verd 440 lb bbls	lb	.18	.19
SULFATE crys 450 lb bbls 100 lb		4.90	5.00
Carlots, bbls wks .100lbs		...	4.75
Powd. 350 lb 5bbls	100 lb	...	5.25
Copperas bulk, crystal and sugar c-l wks	ton	...	13.00
200 lb bgs c-l wks	ton	...	15.00
400 lb bbls c-l wks	ton	...	18.00
Powdered bbls	100 lb	1.90	2.00
Sugar, 100 lb bbls	100 lb	1.25	1.35
Cotton Soluble 100 lb bbls wet	lb	.40	.42
CREAM TARTAR, USP, 300 lb bbls.	lb	.23¾	.24
Imp., powd., USP, 224 bbls	lb	.23¾	.24
Creosote USP 42 lb cbys	lb	.40	.42
Creosote Oil Natural 50gal drs	gal	.20	.21
10-15% Tar acid	gal	.25	.26
25-30% Tar acid	gal	.28	.29
Cresol, USP, 400 lb drums	lb	.20	nom.
Cyclohexanol, see Hexalene			
Cymene, See Para-Cymene			
DIAMINOPHENOL, 100 lb kegs	lb	...	3.80
Diamyl Phthalate drums, wks	gal	2.95	2.97
Dianisidine, 100 lb kegs	lb	3.25	3.35
Dibutyl Phthalate wks	gal	2.75	3.50

Casein—Imported standard ground has been climbing in the past few weeks and is now held at 18¼c@ 18½c lb., duty paid New York for prompt delivery. In the face of the advance inquiry has been routine, with sellers reluctant to buy at advancing prices.

Copper Sulfate—Makers report a very active season and while prices are unchanged, the position is much firmer and supplies are quite well sold ahead.

Copperas—Market remains very firm in all directions with makers quoting unchanged prices.

Cream of Tartar—Makers have advanced prices to 24c lb. following higher prices for the imported material. The strength of the market is due to a shortage of argols in Italy following a poor grape season. Barrels are now quoted at 24c lb.

Dimethylaniline — Movement is steady and prices are firm and unchanged.

Diphenlyanine—Steady at recent reduction to 45c@47c lb.

Diphenyl Guanidine—Has shown no change in the month just past, and is moving at steady prices in a regular manner.

Glycerin—The market is somewhat steadier on several grades. Buying in dynamite has been stimulated, and prices are firmer at 24c lb. Crude saponification is steady at 18¼c@ 18½c lb., with lye quoted at 16¼c@16½c lb. C. P. is openly quoted unchanged at 26c lb. but this price is subject to shading in many directions.

Glauber's Salts—Supplies remain well in excess of demand and prices are sharply competitive.

Hydrogen Peroxide—Market remains sharply competitive on 100 volume material. Open quotations are now at 24c@26c lb., and these are being shaded in some instances to as low as 22c@23c lb. Competition between importers and the domestic factor is the cause.

Lead Arsenate—Is experiencing the usual Spring demand and sellers express themselves as satisfied with the movement at this time.

Lead, Red—Lower this week at 10½c lb. with the lower raw material cost of lead. Litharge has likewise been reduced to 10c lb. for the same reason. Both these items

Dibutyl Tartrate, 50gal drums	lb	.55	.65
Dichlorobenzene, 1,000 lb drums	lb	.06	.07
Dichloromethane drums, wks	lb	.23	.25
Diethylamine, 400 lb drs	lb	...	2.15
Diethylaniline, 850 lb drs	lb	.55	.60
Diethyl Carbonate, drums	gal	1.85	2.00
Diethyl Phthalate 1,000 drums	lb	.25	.28
Diethyl Sulfate tech., 50gal drs	lb	.20	.25
Dimethylamine, 400 lb drs	lb	...	2.60
Dimethylaniline 340 lb drs wks	lb	.32	.34
Dimethylsulfate, 100 lb drs	lb	.45	.50
Dinitrobenzene, 400 lb bbls	lb	.15½	.16½
Dinitrochlorobenzene, 400 lb bbls	lb	.15	.16
Dinitrochlorine, 300 lb bbls	lb	.18	.19
Dinitronaphthalene, 350 lb bbls	lb	.32	.34
Dinitrophenol, 350 lb bbls	lb	.31	.32
Dinitrotoluene, 300 lb bbls	lb	.18	.19
Diorthotolylguanidine, 275 lb bbls wks	lb	.85	.90
Diphenylamine	lb	.45	.47
Diphenylguanidine 100 lb bbls	lb	.68	.72
EPSOM SALT, tech., 300 lb bbls NY	100 lb	...	2.00
Bbls c-l NY	100 lb	...	1.75
100 lb c-l NY	100 lb	1.50	1.75
Imp., 20 lb bags c-l		1.05	1.10
USP, 200 lb bbls 10bbls Seaboard	100 lb	...	2.35
Interior	100 lb	...	2.50
Carlots, bbls kegs Seaboard	100 lb	1.90	2.15
Interior	100 lb	2.00	2.2
Imported, 400 lb bbls	100 lb	1.70	2.00
ETHER, USP, 55 lb drums	lb	...	.14
Ethyl Acetate, 99% 50gal drs	gal	...	1.05
85% Ester, 10gal drs	gal	...	.77
Carlots drums	gal	...	.74
Tank cars	gal	...	.72
Refined drums	gal	1.72	1.85
Aceto Acetate drums wks	lb	...	1.00
Benzyl Aniline, 300 lb drs	lb	1.05	1.11
Bromide, 115 lb drs	lb	...	.50
Chloride, 200 lb drs	lb	...	.22
Lactate drums wks	gal	...	3.50
Methyl Ketone, 50gal drs	lb	.30	nom.
Oxalate drums wks	lb	.45	.55
Ethylene Bromide 600 lb drs	lb	...	.70
Chlorhydrin, anhyd., 50gal drs	lb	.75	.85
40% Solution, 50gal bbls	lb	.25	.30
Dichloride, 50 gal drs.	lb	...	.11
Tank cars	lb	...	.06
Glycol 50gal drums wks	lb	.30	.40
Tri Chloride	lb	.10	.10½
Ethylidenaniline	lb	.62	.65
Feldspar bulk	ton	20.00	25.00
FERRIC CHLORIDE tech., crys. 475 lb bbls	lb	.07½	.09
Imported	lb	.04¾	.05
C.P., crys., 100 lb kegs	lb	...	.10
Imported	lb	.06	.06½
Neut. Soln. 42° 140 lb cbys	lb	.06½	.07
46° 140 lb cbys	lb	.08	.08½
USP, Soln 125 lb cbys	lb	.06½	.07
Bromide solution	lb	...	.55
Ferrous Bromide sol'n	lb	...	.55
Chloride cryst tech 475 lb bbls	lb	.05	.06
Sulfide 1000 lb bbls	100 lb	2.50	3.00
Fiske-White see lead White			
Fluorspar, 95% 220 lb bags ex-dock	ton	...	25.00
96% bags	ton	...	33.50
98% bags	ton	...	35.00
FORMALDEHYDE USP, 400 lb bbls c-l wks	lb	...	.11¼
Bbls 400 lb lc-l wks	lb	.11½	.11¾
Formaldehyde Aniline 100 lb drs	lb	.39	.42
Furfural 500 lb drums	lb	...	.17½
Tanks, wks	lb	...	.15
Fusel Oil 10% Impurities drs	gal	...	1.60
G SALT paste 360 lb bbls basis 100%	lb	.50	.52
GLAUBER'S SALT, tech., 200 lb bags c-l wks	100 lb	1.05	1.10
lc-l wks	100 lb	1.15	1.20
350 lb bbls c-l wks	100 lb	...	1.10
Bbls lc-l wks	100 lb	1.25	1.35
Imported bags NY	lb	.75	.80
Calcined, see Sodium Sulfate			
GLYCERIN, CP 550 lb drums	lb	.25½	.26
Dynamite, 100dr	lb	...	.24
Saponification tanks	lb	.18¼	.18½
Soap, Lye tanks	lb	.16¼	.16½

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with a quality touch

To the textile manufacturer reaching out for the golden feature of quality we have a worthwhile message:

G D C dyestuffs make no attempt to compete with the ordinary or the inferior.

Every dyestuff bearing the G D C trade mark is the finest that knowledge, gained through long experience, can produce.

That we understand what manufacturers of fine textiles require, and are able to satisfy them, has been amply proven. May we have the privilege of assisting you in obtaining attractive, saleable effects?

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GENERAL DYESTUFF CORPORATION

Chemicals

Hexalene, 50gal drs., wks	lb	...	.60
Hexamethylenetetramine drs	lb	.80	.82½
HYDROGEN PEROXIDE, 10 vol 400 lb bbls	lb	.04½	.05
15vol	lb	.06	.06¼
17vol	lb	.06¼	.06½
25vol	lb	.06½	.06¾
100vol 140lb cbys	lb	.24	.26
IODINE, crude 200 lb kegs	lb	4.20	4.25
Iridium, metal, 10oz lots	oz	...	260.00
Iron, metal by hydrogen 1 lb bot	lb	.68	.70
IRON Chloride see Ferric or Ferrous			
Nitrate, kegs	lb	.09	.10
Com'l bbls	100 lb	2.50	3.25
Oxide, red Spanish	lb	.02½	.03¼
English	lb	.10	.12
Perchloride ,see Ferric Chloride			
Isopropyl Acetate 50gal drums	gal	.85	.90
Kaolin see Clay			
LANOLIN, see Adeps Lanae			
LEAD, metal c-l NY	100 lb	...	7.25
Acetate, white crystals	500 lb bbls wks		
	100 lb	14.00	14.50
100 to 250 lb kegs wks	100 lb	...	15.00
White, broken bbls wks	100 lb	14.50	15.00
White, gran bbls wks	100 lb	14.50	15.00
White, powd bbls wks	100 lb	14.75	15.25
Brown, broken bbls wks	100 lb	13.00	13.50
Arsenate, 100 lb kegs	lb		
Bbls., c-l wks	lb	...	.14
Bbls, lc-l wks	lb	.14½	.15
Paste, 100 & 600 lb bbls	lb	.08	.09
Nitrate, 500 lb bbls wks	lb	...	.14
Oxide, litharge 500 lb bbls	lb	...	.10
100 kegs wks	lb	.14¼	.15¼
Oxide, red, 500 lb wks	lb	...	.10½
100 lb kegs wks	lb	.12¾	.16¾
Oleate, bbls	lb	.17½	.18
Peroxide, 100 lb drs	lb	.25	.30
White, basic carb., 500 lb bbls wks	lb	...	.09¾
100 lb kegs wks	lb	.14¼	.15¾
White sulfate 500 lb bbls wks	lb	.09	.09½
LIME, (Salts, see Calcium Salts)			
Ground Stone, bags	ton	...	4.50
Live, bulk	ton	...	8.50
Live, 325 lb bbls tons wks 100 lb		...	1.05
Hydrated, 167 lb bbl ton lots wks	100 lb	...	.85
Single bbl wks	lb	...	.01
Oyster Shell 150 lb bbl sing	lb	...	.03½
Sulfur dry 200 lb drs NY	lb	...	.08½
Drs. c-l NY	lb	...	.07½
33° Sol'n 50 lb bbls NY	gal	.15	.15½
Litharge see lead oxide			
Lithium Carb., USP 100 lb kegs	lb	1.48	1.60
Bromide 100 lb cs	lb	1.80	1.90
Lithopone, 400 lb bbls lc-l wks	lb	...	.06½
Bbls., c-l wks	lb	...	.05⅞
Bags c-l wks	lb	...	.05⅝
Imported, 400 lb bbls	lb	.05¾	.06
MAGNESITE, calcined, 500bbls	ton	48.00	50.00
Magnesium mtl., sticks 100 lb cs	lb	...	.80
Wks.	lb	...	.80
Carb., tech., 70 lb bags NY	lb	.06	.06½
75 lb bbls NY	lb	.08	.08½
USP, 100 lb bbls	lb	.09¼	.10
English cs blocks	lb	.17	.19
MAGNESIUM, Chloride, flake 575 lb drs. c-l wks	ton	...	37.00
Imp., Flake Shipt.	ton	...	33.00
Imp., fused 900 lb bbls NY	ton	...	31.00
Fluosilicate cryst 400 lb bbls wks	lb	.10	.10½
30% sol'n 500 lb bbls wks	lb	.07	.07½
Sol'n. bbls., c-l wks	lb	...	.06
Oxide, USP, light 100 lb bbls	lb	...	.42
USP, heavy 250 lb bbls	lb	...	.50
Salicylate, 100 lb kegs	lb	.75	.80
Stearate bbls	lb	.23	.25
Sulfate, see Epsom Salts			
Manganese Borate, 30% 200 lb bbls	lb	...	.24
100 lb kegs	lb	...	.25
Chloride, 600 lb cnks	lb	.08	.08½
Dioxide, 80-84% 900 lb bbls NY	ton	80.00	85.00
85-90% 900 lb bbls NY	ton	85.00	90.00
Hydrated, precip 100 lb kegs	lb	.15	.23
Ore, bulk cif NY	lb	.35	.40
Sulfate, 550 lb drums NY	lb	.07	.07¼

are moving well, but none too briskly for this season.

Mercury—This market is again sharply higher and the top limit apparently has not been reached as yet. Today's quotations are inside at $123 flask and range up to $125. Speculators abroad have all production bought up as usual, but this year there is no surplus to be sold to outside factors. The large Spanish mine shuts down about the end of this month and does not open again until October. Also domestic material is now marketed through the same channels as the imported material. The entire world output for some months ahead is therefore in direct control of a few hands and there is no telling where the price will go.

Meta-Nitro-Para-Toluidine—Makers report a steady demand from color makers at firm unchanged prices.

Methanol — Refiners report a sudden spurt in demand for pure grades and are maintaining prices very firmly at unchanged prices. Denaturing grade is not quite so active but thus far supplies have not backed up to any extent. Methyl acetone is in good demand and prices are firm and unchanged.

Naphthalene—In active seasonal demand. Supplies are free, however, and prices show no improvement in any instance.

Nickel Salts—Demand remains good and prices are firm.

Orange Mineral—Lower raw material costs enabled makers to reduce the quoted price ¼c lb. to 12¾c@13c lb.

Ortho-Toluidine — Market remains firm at recent advance due to continued active demand, and unwillingness of makers to shade prices due to the low prices obtainable for the para-salt.

Para-Nitroaniline — Makers are holding to their schedule prices in all transactions and report very marked activity in demand.

Para-Toluidine—Makers are still in possession of very large supplies and the outlet is limited. The recent advance in ortho-toludine gave makers an opportunity to reduce prices on the para-salt and maintain the same margin of profit. Para is now moving at 38c@42c lb. as to quantity.

Phenol—Market remains very quiet with all makers apparently

MERCURY, metal 75 lb flask	flask	123.00	125.00
Meta-Nitro-aniline	lb	.72	.74
Meta-Nitro-para-Toluidine, 200 lb bbls	lb	...	1.70
Meta - Phenylenediamine, 365 lb bbls	lb	.90	.94
Meta - Tolylenediamine, 300 lb bbls	lb	.72	.74
Tanks	lb	...	.70
METHANOL (Wood Alcohol) drms. 95%	gal	...	.80
Drums, c-l	gal	...	.83
Drums, lc-l	gal	...	.85
97% tanks	gal	...	.82
Drums, c-l	gal	...	.85
Drums, lc-l	gal	...	.87
Pure, Acetone free, tanks	gal	...	.85
Drums, c-l	gal	...	.88
Drums, lc-l	gal	...	.90
U. S. denat., grd., tanks	gal	...	.80
Drums, c-l	gal	...	.83
Methyl Acetate drums	gal	...	.95
Methyl Acetone, 100gal drums	gal	.88	.90
Tank cars	gal	...	.85
Chloride, 90 lb cyl	gal	.55	.60
Monobromobenzene See Bromobenzene			
Monacetine, See Acetine			
Monochlorobenzene, see Chlorobenzene			
Monethylaniline, 900 lb drs	lb	...	1.05
Monomethyl paraminophenol sulfate 100 lb drs	lb	3.95	4.20
NAPHTHA, see Solvent Naphtha			
NAPHTHALENE, Flske, 175 lb bbls wks	lb	.04½	.05
Balls, 250 lb wks	lb	.05½	.06
Crushed, chipped bgs wks	lb	...	.04¼
Crude, imp., bags	lb	.02	.02¼
NICKEL, Ingot 100 lb kegs		...	.35
Chloride, bbls kegs	lb	.21	.24
Oxide, 100 lb kegs NY	lb	.35	.38
Salt single 400 lb bbls NY	lb	.08	.08½
Double 400 lb bbls NY	lb	.08½	.09
Sulfate, See Nickel Salt single			
Nickel Metal, electrolytic	100 lb	...	84.00
Nicotine, Free, 40% 8 lb tins cs	lb	1.25	1.30
Nicotine Sulfate 10 lb tins	lb	...	1.10
NITRATE SODA, spot, See Sodium Nitrate			
Nitre Cake, bulk wks	ton	4.50	5.50
500 lb bbls	ton	13.00	14.00
Nitrobenzene, Redistilled 1000 lb drs. wks	lb	.09¼	.10¼
Nitronaphthalene, 550 lb bbls	lb	...	.25
Nitrotoluene, mixed 1,000 lb drs wks	lb	.14	.15
Oil Fusel, See Fusel Oil			
Oil Mirbane, see nitrobenzene			
Orange-Mineral, 1100 lb sks NY	lb	.	.14½
700 lb bbls NY	lb	...	.14½
Ortho-Aminophenol, 50 lb kegs	lb	2.20	2.25
Ortho-Anisidine, 100 lb drs	lb	2.35	2.50
Ortho-Dichlorbenzene, see Dichlorbenzene			
Ortho-Nitrochlorobenzene, 1,200 lb drs. wks	lb	.32	.35
Ortho-Nitrophenol, 350 lb	lb	.85	.90
Ortho-Nitrotoluene, 1,000 lb drs wks	lb	.13	.14
Ortho-Toluidine l c l 350 lb bbls	lb	.25	.27
PALLADIUM, metal 10oz lots	oz	80.00	81.00
Para-Aminoacetanilid, 100 lb kgs	lb	1.00	1.05
Para-Aminophenol, 100 lb kegs	lb	...	1.15
Hydrochloride, 100 lb kegs	lb	1.25	1.30
Para-Dichlorbenzene, 150 lb bbls wks	lb	.17	.20
25-50 lb kegs	lb	.20	.21
Paraldehyde .10-55gal drs USP tech	lb	.26	.28
Para-Cymene Ref'd. 110gal drs.	gal	2.25	2.50
Paraformaldehyde USP 100 lb cs	lb	.53	.53½
Para-Nitroacetanilid, 300 lb bbls	lb	.50	.55
Para-Nitroacetanilid 300 lb bbls	lb	.50	.55
PARA-NITROANILINE, 300 lb bbls wks single bbls	lb	.52	.53
Para-Nitrochlorobenzene, 1,200 lb drs wks	lb	...	.32
Para-Nitro-ortho Toluidine, 300 lb bbls	lb	2.75	2.85
Para-Nitrophenol, 185 lb bbls	lb	.50	.55
Para-Nitrosodimethylaniline, 120 lb bbls	lb	.92	.94
Para-Nitrotoluene, 350 lb bbls	lb	.25	.30
Para-Phenetidin, 500 lb drs	lb	1.55	1.80

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THE SELDEN COMPANY

Pittsburgh, Pa., U. S. A.

Para-Phenylenediamine Sal Soda

Chemicals

Salt Common Sodium Oxalate

Para-Phenylenediamine 350 lb bbls	lb	...	1.20
Para - Toluene-Sulfonamide, 175 lb bbls	lb	.40	.41
Para - Toluene-Sulfonchloride, 410 lb bbls wks	lb	.18	.30
Para-Toluidine, 350 lb bbls wks.	lb	.38	.42
PARIS GREEN,			
Arsenic Basis, 500 lb kegs	lb	.19	.20
Kegs, 100 lbs	lb	.21	.22
Paris White, see Whiting French			
PETROLATUM, green 300 lb bbls	lb	.02½	.03
Dark Amber, 300 lb bbls	lb	...	.04¼
Light Amber, 300 lb bbls	lb	...	.04½
Phenol, see also acid carbolic 950 lb drums wks	lb	.16	.17
Small drums 250-100 lb	lb.	.17	.18
Natural 240 lb des drs wks	lb	...	...
Phenyl-Alpha-Naphthylamine 100 lb kegs	lb	...	1.35
Phosphorus, red 110 lb cs	lb	...	.65
Yellow 110 lb cs wks	...	...	.32
Imported, 110 lb cs wks	lb.	.35	.37½
PhosphorousOxychloride 175 lb cyl	lb	.35	.40
Phosphorous Sesquisulfide 100 lb cases	lb	...	.46
Phthalic, Anhydride, 100 lb bbls wks	lb	.18	.20
Pitch, Coal-Tar wks	ton	24.00	26.00
Plaster Paris, tech 250 lb bbls	bbl	...	3.30
Platinum metal soft, 10oz lots	oz.	104.00	106.00
Potash, Caustic, Imp., c-l, cks	lb	...	.07½
Domestic, wks	lb	...	.07⅛
POTASH SALTS, rough			
Pot. Muriate basis 80% bgs	ton	...	36.40
Pot. Sulfate, basis 90% bgs	ton	...	47.30
Pot. & Mag. Sulfate basis 48% bags	ton	...	27.00
Manure Salts basis 30% bulk	ton	...	18.75
Manure Salts basis 20% bulk	ton	...	12.40
Kainit, basis, 12.4% bulk	ton	...	9.00
Kainit, basis, 14% bulk tons 10%	ton	...	9.50
Bulk in bags $2.00 extra			
Prices cif. Atlantic&Gulf Ports			
POTASSIUM Acetate, USP, 100 lb kegs	lb	.29	.30
Bicarbonate USP 320 lb bbls.	lb	.09	.09½
Bichromate, crys., 725 lb csks	lb	.08¼	.08¾
Powd., 725 csks wks	lb	.12	.12½
Binoxalate, 300 lb bbls	lb	.16	.17
Import, 112 lb bbls	lb	.18	.19
Bisulfate, 100 lb kegs	lb.	...	.30
BROMIDE, USP, cryst, gran, 100 lb bbls	lb	.48	.49
Imported, USP, 220 lb cs	lb	.38	.41
CARBONATE, 80-85% calc. 800 lb cks	lb	.05⅝	.05¾
80-85% hydrated cks	lb	.05⅝	.05½
90-95 calc. casks	lb	.06¼	.06½
96-98% calc, casks	lb	.06¾	.07
99% calc casks	lb	...	.07½
USP 100 lb kegs	lb	.11	.11½
99% CP, casks	lb	...	.12½
Chlorate cryst powd 112 lb kegs wks	lb	.08½	.09
Imp., 112 lb NY	lb	.08¼	.08½
Gran. Imp., 112 lb kegs NY	lb	.10½	.11
Chloride, crys., bbls	lb	.05⅝	.05½
Chromate, kegs	lb	.27	.28
Citrate, USP, 50 lb	lb	...	.60
Cyanide 110 lb cases	lb	.55	.57½
Metabisulfite, 300 lb bbls	lb	.11½	.12
Imp., 550 lb bbls	lb	.11½	.12
Nitrate, see Saltpetre			
Oxalate, neutral, 225 lb bbls	lb	.16	.17
Pyridine, 50gal drs	gal	1.00	1.25
PERMANGAN, USP, crys., 500 lb & 100 lb drs wks	lb	.14¼	.14½
Imp., 113 lb drs	lb	.13½	.14
Prussiate red, 112 lb kegs	lb	.37½	.38
Prussiate, yellow 500 lb casks	lb	.18	.18½
Tartrate, neutral 100 lb kegs	lb	...	.51
Titanium Oxalate, 200 lb bbls	lb	...	.25
Pyridine, 50 gal drs.	gal	2.25	2.30
QUICKSILVER, see Mercury			
Quinone, 100 lb kegs	lb	1.75	2.25
R SALT, 250 bbls wks	lb	.45	.46
Red Lead, See Lead Oxide			
Rochelle Salt, USP, 225 lb bbls	lb	.20	.20½
Imp., USP, 300 lb bbls	lb	.19	.19¼
Sal Ammoniac, see Ammon. Chloride			
Sal Soda, see Sodium Carbonate			

anxious to increase outlet but unable to do so except at the expense of some other maker.

Pyridine—Principal outlet as a denaturant was removed by the Government on April 1, and this has resulted in prices dropping to a basis of $1.25 gal. asked and $1.00 bid.

Potash Caustic— Importers are quoting firmly at recent advance of 3/8c lb. over previous prices. Carlots are quoted on a basis of 7½c lb., and smaller lots range up to 8c lb.

Sodium Nitrate — Movement in this territory and in the South has been better. Interest centers on the offers for futures under the free selling plan and already importers here are offering at $2.10 100 lbs. for July-Dec. and $2.15 100 lbs. for Feb.-Apr. 1928. Production in Chile during March was only about one-third as large as March 1926.

Vermilion—Both imported and domestic factors have advanced their ideas sharply on the higher costs of mercury and both types are offered at $1.85@$1.90 lb. This price is inside. Sales are in small volume as buyers are reluctant to pay these levels.

OILS AND FATS

Castor Oil—There has been no change in price or position for the entire month on castor oil. Sellers report a steady amount of business and the price on both grades is well maintained at current levels.

Chinawood Oil—Is in much the same position on spot, except that the market is probably a bit tighter and available lots are very scarce at 31c@33c lb. in. bbls. here. There are no tank offerings on spot and April-May tanks from the Coast is quoted at 27½c@28½c lb. Shipments are not coming through at all from China and the position becomes more acute both here and on the Coast.

Coconut Oil—Passing through a rather quiet period now and has been for several weeks. Manila oil in tanks is offered from the Coast at 8c lb. with some consumer interest. Spot barrels are being sold in a small way at 9¼c@9½c lb. for both Manila and Ceylon.

Corn Oil—Crude at the mills was sold a bit higher early this week at

Salt, Common, see Sodium Chloride			
Salt Cake 94-96% c-l wks	ton	19.00	20.00
White 87% wks	ton	15.00	17.00
SALTPETRE, Double refined Granular, 450-500 lb bbls	lb	.06⅛	.06¼
c-l wks	lb	...	.06
Powdered, bbls c-l wks	lb	...	.07⅛
Large Crystals, bbls c-l wks	lb	...	.08
Triple Refined Gran bbls wks	lb	.06⅝	.06⅞
Satin White, 500 lb bbls	lb	...	.01½
SILICA Crude, bulk, mines	ton	6.00	7.00
Refined, floated bags	ton	15.00	30.00
Air floated bags	ton	32.00	50.00
Extra, floated, bags	ton	55.00	65.00
SILVER, metal American cs	oz	...	.57
SODA ASH, 58% light bags delivered NY 100lbs		2.14	2.29
bbls., delvd. NY 100 lb		2.39	2.54
Contract, c-l,bgs,wks. 100 lb		...	1.32½
58% dense c-l bgs.wks. 100 lb		...	1.32½
Spot 5c 100lbs differential			
CAUSTIC, 76% solid drums delv'd NY 100 lb		3.76	3.91
Ground & Flake 76% drums del., NY	100 lb	4.16	4.31
bbls del.	100 lb	4.41	4.56
Contract c-l wks	100 lb	...	3.00
Spot c-l wks	100 lb	...	3.10
Ground & Flake, 76%, Spot, wks c-l	100 lb	...	3.50
USP, stick, 10 lb cans	lb	.19	.21
Pure, stick, by alcohol	lb	.25	.27
Soda Sal. see Sodium Carbonate			
Sodium Metal, 12½ lb bricks	lb	...	.27
SODIUM ACETATE, crys 450 lb bbls wks	lb	.04½	.05
Aluminate, 500 lb bbls wks	lb	.07⅛	.08
Aluminum Sulfate, see Alum Soda			
Arsenate, 4 lb mtl. wks drms	gal	.50	.60
Drums, 8 lb material wks	gal	1.00	1.20
Bicarbonate 400 lb bbls	NY 100 lb	...	2.41
Bbls c-l wks	100 lb	...	2.00
112 lb kegs c-l wks	lb	...	2.25
112 lb kegs c-l wks	100 lb	...	2.25
Bichromate, 500 lb casks wks	lb	.06¼	.06¾
Bisulfite, dry powder 500 lb bbls wks	lb	...	.08½
Imported	lb	...	.08
BROMIDE, USP, 100 lb cs	lb	.48	.49
Imp. USP., 220 lb cases	lb	.44½	.45
Carbonate 350 lb bbls NY	100 lb	1.30	1.35
Works c-l	100 lb	1.10	1.30
Monohydrate, 400 lb bbl	100 lb	...	2.40
Pure photographic	100 lb		
Imported, 112 lb kegs	lb	.06¼	.06½
Chloride, tech	ton	12.00	13.00
CP, 300 lb bbls	lb	.05	.06
Chlorate, 112 lb kes wks	lb	.06½	.06¾
kegs	lb	.07	.08
Chromate, 800 lb bbl	lb	...	.08
Cyanide 96-98% 100 & 250 lb drums wks	lb	...	.20
c-l wks	lb	...	.19
Imp., 95-97% 100 lb drs	lb	.18	.19
Fluoride, 300 lb bbls wks	lb	.08¾	.09
Imp., 700 lb cks	lb	.09	.10
Hydroxide, see Soda Caustic			
Hypochlorite Soln 100 lb cbys	lb	...	.05
14½ soln 50 lb cbys	lb	...	.04
Hydrosulfite200 lb bbls fobwks	lb	.22	.24
HYPOSULFITE, tech., pea crys 375 lb bbls., wks 100 lb		2.65	3.05
Bbls., c-l wks	100 lb	...	2.50
100 lb kegs wks	100 lb	2.80	2.90
Imp.	100 lb	2.75	3.00
Regular crys., bbls wks	100 lb	2.40	2.65
Bbls., c-l wks	100 lb	2.40	2.50
Kegs, wks	100 lb	2.35	2.45
Imp.	100 lb	2.35	2.45
Metanilate, 150 lb bbls	lb	.70	.75
Molybdate, 100 lb kegs	lb	...	1.10
Naphthionate, 300 lb bbls	lb	.55	.57
Nitrate crude, 95% 200 lb bgs c-l NY	100 lb	...	2.65
Apr. Shipment	100 lb	...	2.65
Double Refined 400 lb bbls Gran c-l wks	lb	...	.03½
Nitrite, 500 lb bbls spot mkrs	lb	.08	.08¼
Imp., 650 lb casks	lb	.08½	.08¾
Ortho - Chloro - Tolune Sulfonate 175 lb bbls wks	lb	.25	.27
Oxalate, neutral, 100 lb kegs	lb	.20	.28

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Solvay Ammonium Bicarbonate
Solvay Paradichlorobenzene
Solvay Sodium Nitrite
Solvay 58% Soda Ash
Dense—Light
Solvay Fluf (Extra Light Soda Ash)
Solvay 76% Caustic Soda
Solid—Flake—Ground
Solvay Super Alkali
Solvay Snowflake Crystals
(Trademark Registered)
Solvay Laundry Soda
Solvay Cleansing Soda
Solvay Tanners Alkali
Solvay Tanners Soda
Solvay Liquid Caustic Soda
Solvay Calcium Chloride 73%—75%

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Sodium Perborate
Tin Tetrachloride

Chemicals

Titanium Oxide
Degras

SODIUM (Continued)			
Perborate, 275 lb bbls	lb	.21	.22
Peroxide, 200 lb cases	lb	.23½	.24
Phosphate, di-sodium tech 550 lb bbls	100 lb	3.25	3.55
Imp	100 lb	...	3.25
Mono-sodium 100 lb kegs	lb	.30	.31
Tri-sodium tech c-l bbls 100 lb		...	3.90
Picramate, 100 lb kegs	lb	...	.69
Para-Toluene Sulfonate 175 lb bbls	lb	.08	.09
PRUSSIATE, yellow 350 lb bbls wks	lb	.12	.12½
Imp., 50 lb cks	lb	.10½	.11
Pyrophosphate, 100 lb kegs	lb	.13½	.14
Salicylate, 100 lb kegs	lb	.37	.38
Silicate, 40° turbid, tanks wks	100 lb	...	.75
55gal drums wks	100 lb	.85	1.10
40° clear, tanks wks	100 lb	...	1.10
55gal. drs wks	100 lb	1.20	1.45
42° turbid tks., wks	100 lb	...	.80
55gal drs wks	100 lb	.90	1.15
42° clear, tanks wks 100 lb		...	1.25
55gal drs., wks	100 lb	1.35	1.75
Silicofluoride, 450 lb bbls NY	lb	.04½	.05
Stannate, 100 lb drums	lb	.48½	.49
Sulfanilate 400 lb bbls	lb	...	.16
Sulphate, see Glauber's Salt			
Sulfate, Anhydrous 550 lb bbls c-l wks	lb	.02¼	.02¾
Imp., 250 lb bbls	lb	.01½	.02
Sulfide, 60% solid, 650 lb drs lc-l wks	lb	.03¼	.04
Drs., c-l wks	lb	...	.03½
Imp., 700 lb drs NY	lb	.03	.03½
60% brkn. 650 lb drs wks	lb	.04	.04¼
Drs., c-l wks	lb	...	.03¾
30% crys 440 lb bbls wks	lb	.02½	.02¾
Imp., 400 lb bbls	lb	.02¾	.02½
Sulfite, cryst 400 lb bbls wks	lb	.03¼	.03½
Anhydrous USP, 100 lb kgs	lb	.08½	.09
Sulfocarbolate USP 100 lb kgs	lb	.32	.34
Sulfocyanide, 400 lb bbls	lb	.40	.45
Tungstate, cryst., 100 lb kegs	lb	.80	.82½
SOLVENT NAPHTHA, 110gal drs wks	gal	...	.40
8,000gal tank cars wks	gal	...	.35
STRONTIUM, Bromide, USP, 50 lb kegs	lb	.51	.52
Carbonate, 600 lb bbls wks	lb	.07¼	.07½
100 lb kgs wks	lb	...	.08
Nitrate, 600 lb bbls NY	lb	.08	.08½
SULFUR Crude, fob mines	ton	18.00	19.00
Brimstone Broken Rock 250 lb bgs c-l	100 lb	...	2.05
Less c-l bbls NY	100lbs	2.35	2.55
Roll, 150 lb bgs c-l NY	100 lb	...	2.25
Less c-l bbls NY	100 lb	2.65	2.85
Flour, Heavy bgs c-l	100 lb	...	2.50
Light, 100% bags c-l	100 lb	...	2.60
Rubbermakers 100% bbls, c-l bags NY	100 lb	...	2.60
Comm'l 99% c-l 150 lb bgs NY	100 lb	...	1.45
For Dusting c-l 99½% 100 lb bags NY	100 lb	...	2.40
Flowers 100% 155 lb bbls NY c-l	100 lb	...	3.45
Precipitated 125 lb bbls NY	lb	...	.17
Lac., 125 lb bbls NY	lb	...	.12
Sulfur Chloride, red, 700 lb drs wks	lb	.05	.05½
150 lb cbys wks	lb	...	.06½
Yellow, 700 lb drs wks	lb	.03¾	.04½
Sulfur Dioxide, 150 lb cyl	lb	.08	.08½
Extra Dry, 100 lb cyl	lb	.17	.19
Sulfuryl Chloride, 600 lb drs	lb	.65	.70
Tar Coke Oven, Tks., wks	gal	.07	.08
Water Gas, Tks., wks	gal	...	.08
Terra Alba No 1 300 lb bbls 100 lb		1.85	1.90
Tetralene, 50gal drs wks	lb	...	.20
Thiocarbanilid, 170 lb bbls	lb	.22	.24
TIN, metal Straits, NY		...	.68
99% American NY	lb	...	.69
Bichloride, 50% sol'n. 100 lb bbls wks	lb	...	.20¼
Crystals, 500 lb bbls wks	lb	...	.48
100 lb kegs wks	lb	...	.48½
Oxide, 300 lb bbls wks	lb	...	.70
100 lb kegs wks	lb	...	.72
Recovered bbls	lb	...	.68
Tetrachloride, 100 lb drs wks	lb	...	.41

8c@8¼c lb. At this level the market is none too strong. The weakness of crude cotton oil shows its effect here.

Cottonseed Oil—Refined oil is about marking time and shows no change for the week either in spot or futures with current quotations at 9c lb. spot and 9.07@9.35c lb. for May-Sept. oil. Crude oil is easy with offers heard early this week at 7¼c lb. for Texas; 7½c lb. for both Valley and Southeast.

Greases—The trend of the market for the past month has been downward. At the moment all grades are about ½c lb. below quotations ruling March 15. Current offers are at: 9 5/8c lb. for choice white; 7c lb. for yellow; 6½c lb. for house and 6 3/8c lb. for brown.

Lard Oil—There is an average inquiry for supplies on this market and the market is steady, though a review of prices for the month shows a lower average now. Current quotations are: edible prime, 15c lb.; off prime, 13¼c lb.; extra, 12¼c lb.; extra, No. 1, 11c lb.; No. 1, 10¾c lb. and No. 2, 10¼c lb.

Linseed Oil—The market has quieted down and there has been a falling off in interest over the past week. Open quotations for raw oil in carlots still at 10.5c lb., but this could be shaded on a round lot. Crushers report an unusually routine condition prevailing now.

Neatsfoot Oil—The high grades show advances this week with both 20° and CP higher at 15¼c@15½c lb. Pure oil is off fractionally to 12¼c lb.; extra and No. 1 are unchanged at 11c lb. and 10¾c lb. respectively.

Olive Oil—The very tight situation both on spot and for shipment of denatured oil continues and most sellers have advanced the local price to $1.75@$1.80 gal. as to quantity. The shipment position is almost as high with but meager offers heard. Some of the oil now being offered is believed to be below standard. Foots have also advanced on spot to 9½c@9¾c lb. at which price the market is very firm. Edible oil is steady with quotations heard at $2.15@$2.20 gal.

Palm Oil—Activity here is limited at the moment and the price of Lagos on spot in barrels is lower at 8¼c@8½c lb. Niger is also down to 7½c@7¾c lb. with but routine interest. Palm Kernel has shown little change and is quiet.

Titanium Oxide, bbls wks	lb	.13	.14
Tolidine, 350 lb bbls	lb	.90	.94
Toluene, 8,000gal tnk cars wks	gal	...	.35
110gal drs wks	gal	...	.40
Toluidine, Mixed, 900 lb drs wks	lb	.31	.32
Toner Lithol Red bbls	lb	.85	.90
Para Red bbls	lb	.75	.80
Toluidine	lb	1.75	1.80
Triacetin, 50gal drs wks	gal	3.60	3.90
Tribromphenol, 100 lb cases	lb	...	1.10
Triphenylguanidine	lb	.69	.73
Triphenyl Phosphate, 450 lb bbls	lb	...	.75
Tungsten, NY WO	unit	11.75	13.00
Ultramarine Blue	lb	.15	.25
Urea Pure, 112 lb cases	lb	.18	.20
Venetian Red	lb	...	.60
Vermilion Amer., 100 lb bags	lb	...	1.85
English kegs	lb	1.85	1.90
WHITE LEAD, see lead, white			
XYLENE, 3° 8,000 gal. tanks wks NY	gal	...	.55
5° tanks wks	gal	...	.45
10° tanks wks	gal	...	.38
Com'l tanks wks	gal	...	.36
Drum lots 5c gal higher			
Xylidine crude	lb	...	.35
Refined	lb	.38	.40
ZINC METAL, high grade slabs c-l NY	100 lb	...	6.75
Ammonium Chloride, powd 400 lb bbls	lb	...	.06¼
Carb., tech., bbls NY	lb	.09½	.10
USP, 100 lb kegs	lb	...	.20
Chloride, fused 600 lb drs wks	lb	...	.06
Drs., c-l wks	lb	...	.05¾
Granulated, 500 lb bbls wks	lb	.06¼	.06½
Imported, dr NY	lb	.06¼	.06¾
Solution 50% tnks wks 100 lb		...	3.00
Cyanide, 100 lb drs	lb	.40	.41
Dust, 100 lb tins wks	lb	...	.10
500 lb bbls kegs c-l wks	lb	...	.09
Oxide, Amer., bags wks	lb	.07¾	.7¾
Amer., 300 lb bbls wks	lb	.07¾	.07¾
French, 300 lb bbls wks	lb	.10¾	.12¾
Bbl c-l wks	lb	.10¾	.12¾
Bags c-l wks	lb	.10½	.12½
USP, 100 lb bbls c-l	lb	...	.14
10-25 bbl lots	lb	...	.15
5bbl lots	lb	...	.16
1bbl lots	lb	...	.17
Imported, white seal, bbls	lb	.12	.13½
Green seal, bbls	lb	.11½	.12
Red seal bbls	lb	.10½	.11
Stearate, USP, 50 lb bbls	lb	.20	.21
Sulfate, 400 lb bbls wks	lb	.03½	.03¾
Bbls c-l wks	lb	...	.03¼
USP, 100 lb bbls	lb	.08	.09
Sulfide, 500 lb bbls	lb	.30	.32
Sulfocarbolate, 100 lb kegs	lb	.29	.30

Oils & Fats

Castor, No. 1, 400 lb bbls	lb	.14½	.15
80 lb cases	lb	.15½	.16
No. 3	lb	.14	.14½
Blown, 400 lb bbls	lb	...	.18
China Wood bbls spot NY	lb	.31	.33
Tanks, Spot NY	lb	...	nom.
Coast tanks—May	lb	.27	.28
Coconut Ceylon 375 lb bbls NY	lb	.09½	.09¾
8,000 gal tanks NY	lb	.08½	.08¾
Cochin, 375 lb bbls NY	lb	.10	10¼
Tanks, NY	lb	...	.09¼
Manila bbls NY	lb	.09½	.09¾
Tanks NY	lb	.08½	.08¾
Tanks Pacific Coast	lb	.08	.08¼
Edible bbls NY		.12	.12½
Cod Newfoundland, 50gal bbls	gal	.66	.68
Tanks, NY	gal	.59	.61
Cod Liver, see Cod Liver Oil under Chemicals			
Copra, bags	lb	.06	.06¼
Corn, ref. 375 lb bbls NY	lb	.13	.13½
Tanks	lb	.11½	.12
Crude tanks mills	lb	.08	.08¼
Bbbls NY	lb	.09¾	.10
Cottonseed Crude mill	lb	.07½	.07½
PSY, 100 bbls spot	lb	...	.09
May-Sept.	lb	.09½	.09⅝
White, 100 bbls lots NY	lb	...	.11½
Degras, Amer., 50gal bbls NY	lb	.04¼	.04½
English, light bbls NY	lb	.05¼	.05½
Brown, bbls NY	lb	.04⅝	.04¾

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Albumen, Egg Edible
Glue

Degras, Eng.,light brn,bbls,NY..	lb	.04½	.04¾
Light brown bbls NY	lb	.04½	.04¾
Dark, bbls NY	lb	.03½	.04
Neutral, bbls NY	lb	.07½	.12
Moellon, bbls., NY	gal	...	.50
Greases choice white bbls NY...	lb	...	.09⅝
Yellow	lb	...	.07
House	lb	...	.06½
Brown	lb	...	.06⅜
Herring, Tanks, Coast	gal	nom.	nom.
Horse, 375 lb bbls NY	lb	.10	nom.
Lard, prime steam bbls	lb	.13¾	.14
Compounds, bbls	lb	.13¾	.14
LARD OIL, edible prime	lb	...	.15
Off prime bbls	lb	...	.13¼
Extra bbls	lb	...	.12¼
Extra, No. 1 bbls	lb	...	.11
No. 1 bbls	lb	...	.10¾
No. 2 bbls	lb	...	.10¼
LINSEED, raw c-l bbls spot	lb	...	10.5
Five bbls raw	lb	...	11.1
Tanks, raw	lb	...	9.7
Bld., 5bbl lot wks	lb	...	11.5
Dbl boiled 5 bbl	lb	...	11.0
Apr.-May c-l wks	lb	...	10.5
Menhaden, crude tanks Balt	gal	...	.47½
Light pressed, bbls NY	gal	.66	.68
Yellow pressed, bbls NY	gal	.69	.70
Extra Bleached bbls NY	gal	.70	.72
Blown bbls NY	lb	...	.10
Mineral Oil, white, 50gal bbls	gal	.80	.90
Russian gal	gal	.95	1.00
Neatsfoot 20° ct., bbls NY	lb	...	.13¼
Pure bbls NY	lb	...	.12¼
CP bbls NY	lb	...	.15¼
Extrax bbls NY	lb	...	.11
No. 1 bbls NY	lb	...	.10¾
Oleo Oil, No. 1 bbls NY	lb	...	.11½
No. 2 bbls NY	lb	...	.09¼
No. 3 bbls NY	lb	...	.08¾
OLIVE, denatured bbls NY	gal	1.70	1.75
Edible, bbls NY	gal	...	2.15
Foots bbls NY	lb	.09¼	.09¾
Shipments	lb	.09¼	.09½
Palm Lagos, 1,500 lb casks	lb	.08¼	.08½
Niger casks	lb	.07½	.07¾
Bonny Old Calabar casks	lb	...	nom.
Palm Kernel bbl NY	lb	.09¼	.09¾
Casks	lb	.09	.09⅛
Peanut refined bbls NY	lb	.15⅛	.16
Crude, mills buyers' tks	lb	.10	.10¼
Crude, bbls NY	lb	12	.12¼
Perilla, bbls NY	lb	.15	.15¼
Tanks, Coast	lb	.14	.14¼
Poppyseed, bbls NY	gal	1.70	1.75
Rapeseed bbls NY Japanese	gal	.82	.83
English	gal	.90	.93
Blown bbls NY	gal	1.02	1.05
Red Oil, distilled bbls	lb	.09½	.10
Tanks	lb	...	.08¼
Saponified, bbls	lb	.10	.10½
Tanks	lb	...	.08¾
Salmon, 8,000 gal tks Coast	gal	.50	nom.
Sardine, Tanks Pacific Coast	gal	...	.45
Sesame edible yellow bbls	lb	.12¾	.13½
White	lb	.14	.15
Sod Oil, bbls NY	gal	...	.40
SOYA BEAN, crude tks Pac Cst	lb	.09¾	.10
Crude, tks NY	lb	.10¼	.10½
Crude, bbls., NY	lb	.12	.12¼
Refined bbls NY	lb	...	.13
Sperm, 38° ct., blchd, bbls NY	gal	.85	.86
45° cold test blchd bbls NY	gal	.82	.84
STEARIC ACID.			
Double pressed, bags dist	lb	.11¾	.12
Double pressed, bgs saponified	lb	.12	.12¼
Carlots	lb	...	.11½
Triple pressed bgs dist	lb	.13¾	.14
Carlots	lb	...	.13½
Stearine Oleo bbls	lb	.09¼	.09½
Tallow edible tierces	lb	...	.09½
Ciby, Extra loose	lb	...	.07¾
Tallow Oil, acidless tks NY	lb	...	.08¾
Bbls c-l NY	lb	...	.10½
Whale, nat winter bbls NY	gal	.76	.78
Blchd, winter bbls NY	gal	.78	.80
Extra blchd bbls NY	gal	.80	.82
Yolk Oil, bbls	lb		
Turkey Red, Oil, single bbls	lb	.11	.12
Double	lb	.14	.16

Perilla Oil—Sharply higher in all directions because of advances in the primary market and a greatly improved demand on spot. Barrels on spot are held at 15c@15½c lb. with dealers offering in limited quantities. Tanks on the Coast are almost on a par with spot offers, with sellers holding for 14c lb.

Rapeseed Oil—There has been some fluctuation in Japanese oil, but on the whole the market is steady and named at 82c@85c gal. English is quiet and steady at 90c @93c gal. with blown at $1.02@ $1.05 gal.

Soya Bean Oil—Has shown little change with tanks on the Coast being held at 9 3/8c lb. without causing any too much interest. New York tanks are quoted at 10¼c lb.

INDUSTRIAL RAW MATERIALS

Albumen—Edible egg is still firm on spot with stocks in fair supply and moving at 93c@95c lb. The uncertainty of replacements from China is the leading factor in holding the market up. Vegetable albumen is unchanged as to price, with a brisk demand for export parcels reported by sellers. Blood albumen is moving routinely at 45c @60c lb. as to seller and quantity.

Bees Wax—There has been no change in the situation and factors are quoting unchanged prices on the rather routine demand. Refined yellow is selling at 45c@47c lb.

Blood—Dried blood on spot is higher at $4.50 unit and in small supply on a good demand. South American on the Coast is unchanged at $3.90 unit. There is a good seasonal demand and all markets are firm.

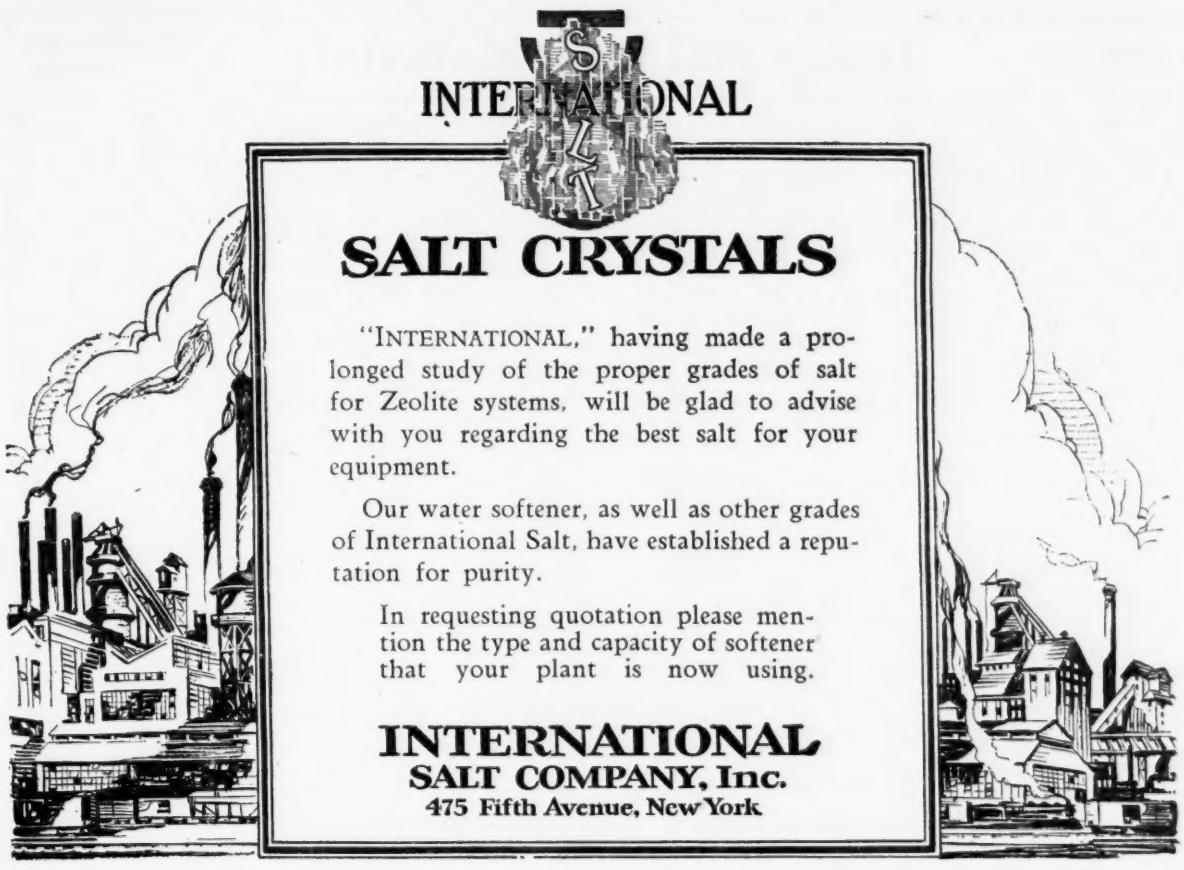
Carnauba Wax—On spot the market is a bit easier on the high grades. Brazilian markets are firm and offers are few and basically the market is quite firm. No. 1 yellow is quoted here at 56c@58c lb. and No. 2 regular at 54c@56c lb.

Divi Divi—Importers are asking higher prices for parcels to arrive at $48.50@$49.00 ton. Consumers are showing a lively interest, although the turnover it not large at the moment.

Egg Yolk—Very scarce with importers quoting 84c@86c lb. and having no trouble in getting their

Industrial Raw Materials

Albumen, egg edible	lb	.93	.95
Tech., 100 lb drs	lb	.86	.88
Blood, 225 lb bbls	lb	.45	.55
Vegetable edible	lb	.60	.65
Technical	lb	.50	.55
Annatto, fine	lb	.41	.48
Archil., double 600 lb bbls	lb	.13	.14
Triple, 600 lb bbls	lb	.16	.17
Cone. 600 lb bbls	lb	.18	.20
Asbestine c-l wks	ton	...	14.75
le-l wks	ton	...	18.00
Bees Wax, white cases	lb	.58	.60
Yellow, refined cases	lb	.46	.48
Crude, bags	lb	.40	.41
Commercial cs,	lb	.27	.28
Blood dried fob NY	unit	...	4.40
Chicago	unit	...	4.50
S Am Shipment	unit	...	3.90
Bone Raw, Chicago	ton	29.50	30.00
Bone Meal, 3 & 50 imp	ton	28.50	29.00
Bone Ash, 100 lb kegs	lb	.06	.07
Black, 200 lb bbls	lb	...	.08¼
Candelilla Wax, bags	lb	.33	.35
Carnauba Wax, Flor., bags	lb	.50	nom.
Powd	lb	.50	nom.
No. 1, Yellow, bags	lb	.56	.58
No. 2, regular bags	lb	.53	.55
No. 2, N. Country bags	lb	...	nom.
No. 3, N Country bags	lb	.35	.37
No. 3, chalky bags	lb	.38	.40
CHARCOAL			
Hardwood, lump, bulk wks	bu	.18	.19
Wood, powd., 100 lb bbls	lb	.04	.05
Willow, powd 100 lb wks bbls	lb	.06	.06¼
Chestnut clarified 25% tks wks	lb	.02	.02¼
Bbls, wks	lb	.03	.03¼
Powd., 60% 100 lb bags wks	lb	.05½	.05¾
Decolorized bags wks	lb	.06½	.07
Cudbear, English	lb	.17	.18
Cutch Rangoon 100 lb bales	lb	...	.15
Tablets, 120 lb boxes	lb	.13	.14
Borneo solid, 100 lb bales	lb	.05½	.05¾
Cyanamide, bulk, c-l wks Amm unit		1.82½	1.90
Imp. Amm. unit		1.80	1.85
Dextrin, white corn 140 lb bags			
c-l 100 lb		...	3.87
bags c-l 100 lb		...	3.97
Canary 100 lb		...	3.92
bags le-l 100 lb		...	4.02
Potato, white 220 lb bags le-l	lb	...	.08½
Yellow, 220 lb bags	lb	...	.08½
Tapioca, 200 lb bags le-l	lb	.08	.08¼
Divi Divi Extract	lb	.04	nom.
Pods, bags ship	ton	48.50	49.00
EARTH Diatomaceous see Kieselguhr			
Egg Yolk, 200 lb cs	lb	.84	.86
Ester Gums Dark, 280 lb bbls	lb	.13¾	.14
Light, 280 lb bbls	lb	.14	.14¼
Fish Scrap, dried wks	unit	4.50 &	.10
Acid Bulk 7 & 3½ Deliv			
Norfolk & Balt basis	unit	...	nom.
Flavine Lemon 55 lb cs	Nlb	.90	.95
Orange 70 lb cs	lb	.85	.90
Fossil Flour	lb	.02½	.04
Fustic, solid 50 lb boxes	lb	.20	.23
Crystals, 100 lb boxes	lb	.20	.22
Liquid, 51° 600 lb bbls	lb	.09	.10
Fustic, sticks	ton	30.00	32.00
Chips	lb	.04	.05
Gall extract	lb	.20	.21
Gambier 25% liq.,450 lb bbls	lb	.12	.14
Common 200 lb cases	lb	.08	.09
Singapore cubes, 150 lb bags	lb	...	.23
Gelatin Technical 100 lb cs	lb	.45	.50
Glucose (Grape Sugar) dry 70°			
bags c-l NY 100 lb		3.14	3.24
80° bags c-l NY 100 lb		3.24	3.34
Tanners' Spcl 100 lb bgs 100 lb		...	3.14
GLUE, pure white bbls	lb	.22	.26
Medium white, bbls	lb	.20	.24
French bbls	lb	.18	.25
High Grade, bbls	lb	.35	.40
Bone, regular, bbls	lb	.10	.12
Fish bbls	gal	1.50	1.75
Hide bbls	lb	.14	.24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In requesting quotation please mention the type and capacity of softener that your plant is now using.
INTERNATIONAL
SALT COMPANY, Inc.
475 Fifth Avenue, New York

If you have a practical problem in sizing, softening, finishing, or weighting any yarn or fabric, our specialists are at your service. We have had a wide and long experience and are constantly in touch with the best new methods here and in Europe. We will gladly furnish formulas for obtaining any desired finish of any material.

Manufacturers and Importers

Over a Century of Chemical Service 1815 - 1925

ARNOLD HOFFMAN & CO., Inc.

William H. Hayward, *President*
Edward M. Johnson, *Vice-President & Treasurer*
Joseph A. Bryant, *Vice-President*

Providence, R. I.

Boston
New York

Philadelphia
Charlotte

Gums
Oak Bark

Industrial Raw Materials

Osage Orange
Whiting

GUM, Accroides, Red, coarse and fine, 140-150 lb bags		.03¾	.04½
Powdered, 150 lb bgs	lb	.06	.06½
Accroides, Yel. 150-200 lb bgs	lb	.18	.20
Animi (Zanzibar) Bean and pea 250 lb cases	lb	.40	.45
Glassy, 250 lb cases	lb	.60	.65
Asphaltum, Barbadoes, Manjak 200 lb bags	lb	.09	.12
Egyptian, 200 lb cases	lb	.15	.17
Gilsonite selects 150 lb bgs	ton	55.00	60.00
Benzoin, Sumatra, Tech., 120 lb cases	lb	.30	.32
Copal, Congo, 112 lb bags Water White,	lb	.35	.36
Light Amber,	lb	.12½	.14
Dark Amber,	lb	.08¾	.09
Clean Opaque	lb	.12	.13
Copal, East Indian 224 lb cases 180 lb bags— Pale, E. I. Bold	lb	.17	.17½
Pale, E, I, Chips 180 lb bags—	lb	.07½	.08
Copal, Manila, 180-190 lb Baskets— Pale Bold, Loba A,	lb	.16	.16½
Pale Bold, Nuba, Loba B	lb	.15	.15½
Pale, Bold, Loba C	lb	.14½	.15
Pale Nuba, P. N.	lb	.14	.14½
Pale Bold, 224 lb cases	lb	.16	.18
Copal, Pontianak, 24 lb cases— Pale, Bold, genuine No. 1	lb	.28	.28½
Pale, genuine split chips	lb	.19	.19½
Damar, Batavia standard 136 lb cases	lb	.25½	.26
Batavia E Seeds 136 lb cs	lb	.18½	.19
Batavia F Splinters 136 lb cases and bags	lb	.12	.13
Batavia, Dust, 160 lb bags	lb	.10½	.11½
Singapore No. 1 224 lb cs	lb	.34	.36
Singapore No. 2, 224 lb cs	lb	.22½	.22½
Singapore No. 3, 180 lb bgs	lb	.11	.11½
Elemi, No. 1, 80-85 lb cs	lb	.14	.15
No. 2, 80-85 lb cases	lb	.13	.14
No. 3, 80-85 lb cases	lb	.11	.13
Kauri No. 1, 224-226 lb cs	lb	.67½	.68
No. 2, fair pale 224-226 lb cases	lb	.44½	.45
Bush Chips 224 - 226 lb cases	lb	.42	.43
Pale Chips 224-226 lb cases	lb	.24½	.26
Brown Chips 180-200 lb bgs	lb	.14½	.16
Sandarac Prime quality 220 lb bags and 300 lb casks	lb	.25	.26
Graphite crude 220 lb bags	ton	15.00	35.00
Flake, 500 lb bbls	lb	.05	.09
HEMATINE, Paste, 500 lb bbls	lb	.09	.12
Crystals, 400 lb bbls		.12	.20
Hemlock, 25% 600 lb bbls wks	lb	.03½	.03¾
Bark	ton	...	16.00
Hypernic, 51° 600 lb bbls	lb	.12	.15
Indigo Madras bbls	lb	1.28	1.30
20% paste drums	lb	.14	.15
Japan Wax 224 lb cs	lb	.18½	.19
KIESELGUHA, 95 lb bags NY	ton	60.00	70.00
Larch 25% 600 lb bbls wks	lb	.03¾	.04
Powd., 100 lb bags wks	lb	.08	.09
Logwood 51° 600 lb bbls	lb	.08¼	.08½
Lower grades	lb	.07½	.08
Solid, 50 lb boxes	lb	.12	.15
LOGWOOD sticks	ton	26.00	27.00
Chips 150 lb bags	lb	.03	.03½
Madder, Dutch	lb	...	.30
Mangrove, 55% 400 lb bbls	lb	.03¼	nom.
Mangrove bark, African	ton	37.00	38.00
Marble Flour, bulk	ton	10.00	12.00
See also Calcium Carbonate under Chemicals			
Montan Wax, crude bags	lb	.06½	.07
Bleached bags	lb	.24	.27
Myrobalans 25% liquid bbls	lb	.04	.04¼
50% solid, 50 lb boxes	lb	.08	.08¼
Myrobalans, bags J1	ton	41.00	42.00
R2.	ton	...	nom.
J2 .	ton	...	35.50
Nitrogenous Material bulk	unit	...	3.60
NUTGALLS, Chinese, bags	lb	.17	.18
Aleppy bags	lb	.25	nom.
Powd. bags	lb	.22	.24
Oak bark, whole	ton	20.00	22.00
Ground	ton	45.00	50.00
Oak, tanks wks	lb	...	.03½
23-25% liq. 600 lb bbls wks	lb	.04	.04½
Solid, powd	lb	.07½	.08

price. There are no offers for shipment and the spot position is very firm.

Gums, Varnish—The market is in a very easy position with sellers competing for the routine business seen in the market. Most factors are willing to shade the open prices for business. Sandarac is easy and lower this week at 25c@ 26c lb. on spot.

Japan Wax—Inquiry has dropped off and the market is rather quiet here, with quotations noted over the past week at 18c@18¾c lb. as to seller. Shipment prices are unchanged.

Mangrove Bark—Quiet this week at $37.00@$37.50 ton as to position. Buyers are interested but routinely.

Myrobalans—Offers are heard this week on J2's at $35.50@$36.00 ton for shipment. R2's and J1's are unobtainable in any position. Sales are in fair volume.

Rosins—The local market has shown advances this week and practically all grades are now higher. Consuming demand has been satisfactory and the exporters have also been active both here and in the South. Current quotations are: B, $10.00; D, $10.25; E, $11.10; F, $11.35; G, $11.35; H, $11.40; I, $11.40; K, $11.45; M, $11.50; N, $12.50; WG, $13.50; WW, $16.25.

Sumac—There has been some fluctuation in price on ground sumac, and at the moment prices are heard from $73.00@$74.00 ton as to position and seller. Consuming interest is average.

Tankage—Prices are well maintained in all directions, and while some factors here ask $4.50 & 10c unit, it is still possible to do $4.40 & 10c unit. South American on the Coast is sharply higher at $4.40 & 10c unit. Chicago markets are unchanged and firm. The demand here in the East is up to expectations.

Valonia—Following the sharp advance in beards early this month to $70.00 ton there has been no change in price. At this level the consuming trade is showing interest but buying is not heavy at the moment. Cups and mixtures are still classed as unobtainable.

Wattle Bark—Recent advices from abroad have caused factors to advance the price on arrival parcels to $55.00 ton at which level the market is quite firm.

Osage Orange 51° liquid	lb	.07	.07½
Powd, 100 lb bags	lb	.14½	.15
Crystals	lb	.16	.17
Paracouarone, 230 lb drums	lb	.12	.15
Paraffin, ref'd 200 lb cs slabs 118-120 deg. M.P.	lb	.08	.09
123-127 deg. M.P.	lb	.06½	.06¾
128-132 deg. M.P.	lb	.07½	.07¾
133-137 deg. M.P.	lb	.08	.08½
138-140 deg. M.P.	lb	.08¾	.10
Phosphate Acid, 16% Bulk wks unit		.62½	.65
Phosphate Rock, fob., mines Florida Pebble 68%	ton	3.00	3.15
Florida Pebble 70%	ton	3.50	3.65
Florida Pebble 72%	ton	4.00	4.15
Florida Pebble, basis 75%-74%		...	5.00
Florida Pebble, 75%		...	5.75
Florida Pebble, basis 77%-76%		...	6.25
Tennessee 72%	ton	...	5.00
Pine Oil, stm., dist, bbls	gal	...	.70
Destructive dist.	lb	.63	.64
Prime	bbl	8.00	10.60
Plaster Paris, tech., 250 lb bbls	bbl	...	3.30
Pumice Stone, lump, 250 lb bbls	lb	.04½	.06
Lump, bags	lb	.04	.05
Powdered, 350 lb bbls	lb	.02½	.03
QUEBRACHO, 35% liquid tks	lb	.03	.03½
450 lb bbls c-l	lb	.03½	.04
35% bleaching, 450 lb bbls	lb	.04	.05
Solid 63% 100 lb bales cif	lb	.04½	.04¾
Clarified, 64% bales	lb	...	.05
Quercitron, 51° 450 lb bbls	lb	.06½	.07
Solid 100 lb boxes	lb	.10	.13
Quercitron, bark, rough	ton	...	14.00
Ground	ton	34.00	35.00

Rosins (Solid in 600 lb bbls gross for net)

B	10.00	I	11.40
D	10.25	K	11.45
E	11.10	M	11.50
F	11.35	N	12.50
G	11.35	WG	13.50
H	11.40	WW	16.25

(Sold in 600 lb bbls net, quotations based on a unit of 280 lb)

Rosin Oil first run 50 gal bbls	gal	...	.57
Second run bbls	gal	...	.62
Rotten Stone lump imp. bbls	lb	.07	.08
Lump selected, bbls	lb	.09	.12
Powdered, bbls	lb	.02	.05
Domestic bags mines		24.00	30.00
Sage Flour 150 lb bags	lb	.04¼	.05
Shellac, T.N., bags	lb	.37	.37½
Superfine bags	lb	.40	.50
Garnet, bags	lb	.41	.43
Bone dry, bags	lb	.47	.50
Spruce, 25% liquid tanks, wks	lb	.01	.01½
bbls	lb	...	.01¾
Powd, 50% 100 lb bags wks	lb	.02	.02¼
Starch, rice, 140 lb bags	lb	.09	.10
Powd. 140 bgs. c-l	100 lb	...	3.22
Bags lc-l	100 lb	...	3.32
Pearl, 140 lb bags	100 lb	...	3.12
Bags lc-l	100 lb	...	3.22
Potato domestic, 200 lb bgs c-l	lb	.04¾	.05
Imported bags duty paid	lb	.06¼	.06½
Wheat, dom., thick bags	lb	.06½	.07
Thin, bgs	lb	.09½	.10
Sol. Potato	lb	.06	.06½
Sumac, extract, liq 450 lb bbls	lb	.05	.06
CP. 450 lb bbls	lb	...	.10½
Stainless, 600 lb bbls	lb	.11	.11¼
Sumac, Sicily leaves 100 lb bags	ton	130.00	nom.
Ground shipment	ton	73.00	74.00
Virginia, 150 lb bags	ton	55.00	60.00
TALC, Italian 220 lb bags NY	ton	40.00	50.00
Refined, white bags	ton	50.00	55.00
French, 220 lb bgs NY	ton	30.00	35.00
Refined, white bags	ton	38.00	45.00
Dom., crude, 100 lb bags NY	ton	12.00	15.00
Refined 100 lb bags NY	ton	16.00	18.00
Tankage, ground NY	unit	4.40 &	.10
High grade fob Chicago	unit	4.50 &	.10
So. Am. cif	unit	4.40 &	.10
Tapioca Flour, high grade bgs	lb	.04¼	.04½
Medium grade, bgs	lb	.03½	.03¾
Low grade, bags	lb	.03	.03¼
Tar, Kiln-burnt	bbl	15.50	16.00
Retort bbls	bbl	16.00	16.50
Tarpaulin 500 lb bbls	100 lb	2.50	3.00
Turpentine Spirits bbls	gal	.67½	.72
Wood steam Dist. bbls	gal	.57½	.62
Valonia Cups 30-31% tan	ton	...	Nom.
Beard, 42% tan bags	ton	70.00	72.00
Mixture Bark bags	ton	...	Nom
Wattle Bark, bags	ton	55.00	56.00
Extract 55% dble bgs ex-dock	lb	...	.05¾
Whiting 200 lb bags c-l wks 100 lb		...	1.25
Alba bags NY c-l	ton	...	13.00
Gilders, bags NY c-l	100 lb	...	1.35

SHARPLES TRADE MARK SOLVENTS

PENTASOL has a higher boiling range and evaporates more slowly than the alcohol contained in refined fusel oil. It is mild in odor and without residual odor.

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110 William St., New York

Import Manifests

Heavy Chemicals and Other Industrial Raw Materials.

IMPORTS AT NEW YORK
April 6 to 13

ACIDS—Coal Tar, 7 drs., Merck & Co., Hull; **Cresylic,** 63 cks., Asso. Metals & Minerals Corp., Rotterdam; 40 drs., W. A. Foster & Co., Liverpool; **Succinic,** 2 cks., Nat. Bank of Commerce, Danzig; **Tartaric,** 2.0 bbls., H. Hinrichs Chem. Co., Rotterdam; 100 kgs., Lo Curto & Funk, London; 30 bbls., Superfos Co., Genoa

ALBUMEN—56 cs., Watson, Geach & Co., Shanghai; 8 cs., Balfour, Williamson & Co., Shanghai; 97 cs., Balfour, Williamson & Co., Shanghai; **Blood,** 25 cks., J. Morningstar & Co., Hamburg

AMIDOPYRIN—2 cs., E. Fougera & Co., London

AMMONIAC—Sal, 33 cks., Innis, Speiden & Co., Rotterdam; 10 cks., Wing & Evans, Liverpool

AMMONIUM—Carbonate, 25 cs., Schofield, Donald Co., Liverpool; 20 cks., Standard Bank of So. America, Liverpool; **Chloride,** 10 cks., Eimer & Amend, Hamburg; 75 cks., Order, Hamburg; **Muriate,** 25 cks., C. de P. Field Co., Bristol

ANTIMONY—Oxide, 132 bgs., Canadian Bk. of Commerce, Bordeaux; **Regulus,** 500 cs., M. L. Van Norden, Shanghai; 400 cs., Botelho Bros., Shanghai; 250 cs., F. A. Cundill & Co., Shanghai; 250 cs., Order, Shanghai; 1,900 cs., Wah Chang Trdg. Corp., Hankow; 750 cs., Mitsui & Co., Hankow; 500 cs., Nat. City Bank, Changsha; 248 cs., Order, Chansha; 1,000 cs., International Banking Corp., Singapore; **Sulfide,** 577 bgs., Duncan Fox & Co., Antofagasta

AOLAN & SOLUTION OF LACT ALBUMIN—9 cs., H. A. Metz & Co., Hamburg

ARGOLS—26 cs., Tartar Chem. Works, Genoa; 42 bgs., W. R. Grace & Co., San Antonio; 233 bgs., W. R. Grace & Co., Valparaiso

BARIUM—Sulfide, 10 bgs., Oakland Chem. Co., Rotterdam

BENZOYL CHLORIDE — 48 crbys., Order, Hamburg

BLANC FIXE—1 cs., American Express Co., Hamburg

BONE MEAL—1,763 bgs., E. Suter & Co., Trieste; 550 bgs., Ore & Chemical Co., Trieste

CALCIUM—Carbonate, 700 bgs., Starlike Comm. Co., Venice

CASEIN—834 bgs., Atterbury Bros., Buenos Aires; 423 bgs., M. H. Grace & Co., Buenos Aires; 50 bgs., A. Hurst & Co., Bordeaux; 834 bgs., Atterbury Bros., Buenos Aires

CHALK—1,000 tons, J. W. Higman & Co., Dunkirk; 250 tons, Taintor Trdg. Co., London; 55 bgs., C. B. Chrystal & Co., London; 500 bgs., H. J. Baker & Bros., Bristol; 81 bgs., Harshaw, Fuller & Goodwin, Barcelona

CHEMICALS—15 cks., Stanley, Doggett, Inc., Bremen; 15 cks., Order, Bremen; 3 cs., H. C. Ryland, Hamburg; 39 cks., A. Klipstein & Co., Hamburg; 4 drs., Phoenix Shpg. Co., Hamburg; 5 cs., 4 drs., Order, Hamburg; 15 cks., P. Uhlich & Co., Hamburg; 32 cs., Eimer & Amend, Hamburg; 67 cks., H. Hinrichs Chem. Corp., Rotterdam; 2 cks., Hummel & Robinson, Rotterdam

CHINA CLAY—992 tons, 6 cwt., English China Clay Sales Corp., Fowey; 1,395 tons, Moore & Munger, Fowey; 30 cks., C. T. Wilson & Co., Bristol

CHLORODYNE—1 cs., American Merchant Line, London

CLAY—Burnt, 210 sks., H. A. Robinson Co., Hull

COAL TAR CREOSOTE—48 drs., Merck & Co., Hull

COAL TAR PRODUCTS—2 cs., General Dyestuff Corp., Hamburg

COLORS—76 cks., Geigy Co., Hamburg; 8 bbls., Bernard & Bernard, Genoa; 20 cs., R. F. Downing & Co., London; 79 cks., 10 jugs, 1 cs., General Dyestuff Corp., Rotterdam; 20 cks., National City Bank, London; 11 cks., 1 cs., General Dyestuff Corp., Hamburg; 5 bbls., A. Hurst & Co., Hamburg; 1 cs., American Kreuger & Toll Corp., Hamburg; 10 cks., Ciba Co., Havre; **Bronze Powder,** 6 cs., L. Uhlfelder & Co., Bremen; 16 cs., J. E. Mandlik, Hamburg; **Coal Tar,** 84 cks., 3 cs., General Dyestuff Corp., Rotterdam

COPPER SULFATE—3 cks., Eimer & Amend, Hamburg

CRYOLITHE SYNTHETIC—55 cks., C. Hardy, Inc., Havre

DIVI DIVI—1,522 bgs., R. Desvernine, Curacao; 1,123 bgs., Suzarte & Whitney, Maracaibo

EARTH—Infusorial, 2 cs., Roessler & Hasslacher Chem. Co., Hamburg; 1,000 bgs., Order, Oran; **Red,** 50 bbl., G. Z. Collins & Co., Bristol; 65 cks., Reichard Coulston, Bristol; 29 cks., Order, Bristol; **Sienna,** 25 bbls., R. I. Waddell & Co., Leghorn; 200 bgs., J. Lee Smith & Co., Leghorn; 156 cks., Reichard Coulston, Inc., Leghorn; 200 bgs., J. Lee Smith & Co., Leghorn; **Umber,** 25 bbls., R. J. Waddell & Co., Leghorn

EXTRACTS—Gallic, 5 cs., Geigy Co., Hamburg; **Myrobalan,** 300 bgs., Order, Calcutta; **Quebracho,** 35,435 lbgs., Tannin Corp., Buenos Aires

FERRO MANGANESE—128 cks., De Courcy Browne, Havre; 100 cks., De Curcy Browne, Havre; **Phosporus,** 113 cs., C. W. Leavitt & Co., Dunkirk

FLUORSPAR—400 bgs., O. Haase, Hamburg

FULLER'S EARTH—100 bgs., L. A. Salomon & Bros., Bristol; 300 bgs., C. B. Chrystal & Co., London; 550 bgs., L. A. Salomon & Bros., London

GLAUBER SALTS—125 bbls., Monmouth Chem. Co., Hamburg

GLUE—20 bgs., G. H. Hommel, Hull; 100 bgs., H. Bierschenk, Liverpool; 210 bgs., Kelsey, Risden Co., Liverpool; 200 bgs., Nat. Gum & Mica Co., Bristol; 200 bgs., S. Isaacs Co., Hamburg; 20 bbls., American Express Co., Hull; 200 bgs., Order, Trieste; 400 bgs., Order, Constanza

GUMS—37 bgs., G. H. Lincks, Singapore; 93 bgs., Irwin, Harrison & Whitney, Adelaide; 300 bgs., Baring Bros. & Co., Adelaide; 192 bgs., Brown Bros. & Co., Singapore; **Benzoin,** 35 cs., F. B. Ross & Co., Singapore; 53 cs., S. B. Penick & Co., Singapore; **Arabic,** 210 bgs., Barclays Bank, Port Sudan; 263 bgs., Thurston & Braidich, Port Sudan; 105 bgs., Arabol Mfg. Co., Port Sudan; 263 bgs., Orbis Products Trdg. Co., Port Sudan; 105 bgs., S. B. Penick & Co., Port Sudan; 3 bgs., Order, Port Said; **Dragon,** 15 cs., Gullabi, Gulbenkian & Co., Constantinople; 16 bgs., D. Isbetcherian, Constantinople; **Chicle,** 155 bgs., N. Y. Trust Co., Trinidad; 262 bgs., W. Wrigley, Jr., Pto. Colombia; **Copal,** 100 cs., A. Klipstein & Co., Singapore; 70 bgs., Baring Bros. & Co., Singapore; 70 bgs., L. C. Gillespie & Sons, Singapore; 120 bgs., Grace Nat. Bank, Singapore; **Damar,** 192 bgs., 50 cs., S. Winterbourne, Singapore; 200 cs., G. W. S. Patterson Co., Batavia; 150 cs., Order, Batavia; 50 cs., Baring Bros. & Co., Singapore; 50 cs., Chemical Nat. Bank, Singapore; 4 bgs., A. Klipstein & Co., Singapore; 210 bgs., Innes & Co., Singapore; 140 bgs., Baring Bros. & Co., Singapore; 430 bgs., L. C. Gillespie & Sons, Singapore; 150 bgs., Baring Bros. & Co., Singapore; 100 bgs., Kidder, Peabody Acceptance Corp., Batavia; 200 cs., Order, Batavia; 128 bgs., 203 cs., Baring Bros. & Co., Singapore; **Elemi,** 234 cs., W. H. Stiles & Co., Singapore; **Tragacanth,** 34 bgs., Thurston & Braidich, London; 4 cs., W. Mohrmann, Southampton

HARTSHORN SALTS—20 cks., H. Hinrichs Chem. Corp., Rotterdam; 20 cks., Philipp Bros., Rotterdam

IDIGO—14 cks., General Dyestuff Corp., Rotterdam

IRON OXIDE—40 bbls., Wishnick-Tumpeer Chem. Co., Malaga; 125 bbls., C. J. Osborn & Co., Malaga; 8 cks., Reichard Coulston, Inc., Liverpool

LIME—Lactic, 5 cks., Mallinckrodt Chem. Works, Hamburg

LINALY ACETATE—4 cs., G. Lueders & Co., Hamburg

LITHOPONE—500 cks., B. Moore & Co., Rotterdam

MAGNESIA CARBONATE—6 cs., Yardley & Co., London; 18 cs., Schering & Glatz, Hamburg

MINERAL WHITE—600 bgs., Hammill & Gillespie, Hull; 1,333 bgs., Whittaker, Clark & Daniels, Hull

MYROBALANS—5,000 pkts., Hammond & Carpenter, Calcutta

OCHRE—25 cks., J. Lee Smith & Co., Hull; 30 cks., Order, Bordeaux; 82 cks., Wishnick-Tumpeer, Inc., Marseilles; 50 cs., F. L. Kraemer & Co., Marseilles; 140 cks., U. S. Mortgage & Trust Co., Marseilles; 19 bbls., Hummel & Robinson, Malaga

OILS—Castor, 27 cs., Alps Drug Co., Genoa; **Coconut,** 650 tons, Spencer Kellogg & Sons, Singapore; **Cod,** 160 cks., R. Bad ock & Co., St. John; 200 cks., K. Irwin & Co., St. Johns; 300 cks., R. Badcock & Co., Hull; 100 bbls., J. Irwin & Co., Aberdeen; **Cod Liver,** 20 cks., C. L. Huisking, St. Johns; **Fusel,** 3 cks., Order, Trieste; **Lubricating,** 75 drs., Schliemann Co., Hamburg; **Olive,** 80 drs., E. Penna, Genoa; 1,390 drs., Order, Genoa; 1,000 drs., F. Romeo & Co., Genoa; 59 drs., R. Bozza, Genoa; 50 drs., C. H. Arnold & Co., Bordeaux; 295 drs., La Montague, Inc., Bordeaux; 137 cs., Bowery & East River National Bank, Tarragona; 805 cs., Order, Genoa; 100 cs., F. Pepe, Genoa; 100 cs., J. Kurtz & Sons, Genoa; 200 cs., S. Esposito & Bros., Genoa; 200 cs., Ader Genoa; 100 cs., P. Pastene & Co., Genoa; 415 cs., Caldwell & Co., Genoa; 300 cs., & Balamut, Genoa; 150 cs., B. Bendin, Inc., Oceano Shipping Co., Genoa; 105 cs., Parodi Erminio & Co., Genoa; 50 cs., M. De Rosa, Genoa; 100 cs., Satz Wholesale Grocery Co., Genoa; 100 cs., Mayer & Lange, Marseilles; 90 cs., Fiske & Brown, Marseilles; 100 cs., Correale Bros., Genoa; 150 cs., A. Violi, Genoa; 200 cs., H. Petrocelli, Genoa; 100 cs., Esposito Bros., Genoa; 150 cs., A. Germano & Son, Genoa; 200 cs., F. Romeo & Co., Genoa; 100 cs., R. Martorelli Bros., Genoa; 200 cs., B. Filippone & Co., Genoa; 50 cs., V. Quartararo & Co., Genoa; 25 cs., F. Vicinaiza, Genoa; 165 cs., Von Bremen, Asch & Co., Genoa; 100 cs., G. W. Sheldon & Co., Genoa; 130 cs., C. Correale & Bros., Genoa; 50 cks., 100 cs., Banco Sicilia Trust Co., Palermo; 200 cs., Banco de Sicilia Trust Co., Malaga; 200 drs., 100 cs., American Exchange Irving Trust Co., Malaga; 100 cs., Bowery & East River National Bank, Malaga; 300 cs., Order, Malaga; 25 drs., Magnus, Mabee & Reynard, Leghorn; 100 cs., 25 bbls., National Bank of Commerce, Bari; 700 cs., A. Violi, Genoa; 100 bbls., Lazard Freres, Tarragona; **Palm,** 295 bbls., N. Y. Trust Co., Belawan Deli; 42 cks., I. R. Boody, Hamburg; 200 cs., Order, Marseilles; 210 cks., Order, Cotonou; 480 cks., American Exchange Irving Trust Co., Abonema; 33 cks., Order, Sierre Leone; 82 cks., W. & A. Leaman, Abonema; 59 cks., 149 drs., Niger Co., Port Harcourt; 71 cks., D. Bacon, Liverpool; 286 bbls., Order, Liverpool; 133 drs., Wile Co., Cotonou; 474 cks., African & Eastern Trading Co., Opobo; 424 tons, 17 cwt., Niger Co., Opobo; 108 tons, 8 cwt., Arican & Eastern Trading o., Calaba; **Sesame,** 25 bbls., R. U. Delepenka Co., Genoa; 3 cs., Order, Beirut; **Sulphur,** 100 bbls., Banca Commercial Italiana, Bari; 100 bbls., Order, Leghorn; 100 bbls., Leghorn Trading Co., Catania; 150 bbls., Leghorn Trading Co., Leghorn; 100 bbls., J. B. Dewsnap & Co., Patras; 100 bbls., Smith, Weihman Oil Co., Patras; **Wood,** 100 drs., Guaranty Tr. Co., Hongkong; 176 bbls., Phila-Girard Nat. Bank, London; 66 bbls., Order, London

OZOKERITE—503 bgs., J. Dick, Hamburg

POTASSIUM SALTS—79 cks., Bank of America, Bremen; **Alum,** 1 bbl., Eimer & Amend, Hamburg; **Carbonate,** 16 cks., Parsons & Petit, Bremen; **Caustic** 152 drs., Roessler & Hasslacher Chem. Co., Hamburg; **Chlorate,** 1,300 cks., Monmouth Chem. Co., Hamburg; **Cyanide,** 10 cs., Eimer & Amend, Hamburg; **Muriate,** 7,000 bgs., Potash Imptg. Corp. of America, Hamburg; **Permanganate,** 2 drs., Eimer & Amend, Hamburg; **Sulfate,** 500 bgs., Potash Imptg. Corp. of America, Hamburg;

PUMICE STONE—1,602 bgs., K. F. Griffiths & Co., Canneto Lipari; **Lump,** 5,746 bgs., National Pumice & Stone Co., Canneto Lipari; **Powder,** 200 bgs., National Pumice Stone Co., Canneto Lipari

QUICKSILVER—200 flasks, C. L. Huisking, Alicante; 500 bottles, International Metals & Minerals Co., Alicante; 140 flasks, H. W. Peabody & Co., Alicante

RESIN—75 cks., J. D. Richardson, Hamburg

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SALTPETRE—100 cks., Superfos Co., Rotterdam; 204 bgs., Superfos Co., Rotterdam
SHELLAC—400 bgs., Ralli Bros., Calcutta; 350 bgs., Order, Calcutta; 432 bgs., Order, London; 100 bgs., British Overseas Bank, Calcutta; 300 bgs., A. Helmrath, Inc., Calcutta; 1,025 bgs., Order, Calcutta; **Seedlac,** 250 bgs., Norton, Lilly Co., Calcutta; 200 bgs., Order, Calcutta; **Stiklac,** 140 bgs., N. Y Trust Co., Singapore; 70 bgs., F. B. Ross & Co., Singapore; 128 bgs., E. S. Parkes Shellac Co., Singapore
SODIUM SALTS—Cyanide, 1,000 cs., American Cyanamid Co., Rotterdam; 560 cs., C. Hardy, Inc., Havre; **Nitrate,** 1,593 bgs., W. R. Grace & Co., Iquique; 508 bgs., Kuttroff, Pickhardt & Co., Hamburg; **Sulfate,** 50 drs., R. F. Downing & Co., Bristol
SULPHUR—200 cks., Heemsoth & Basse Co., Bordeaux; 19 cks., Lo Curto & Funk, Bristol; 5 cks., McKesson & Robbins, Bristol
SUMAC—350 bgs., E. E. Androvette, Palermo; 840 bgs., Order, Palermo
TALC—20 bgs., Yardley & Co., London; 500 bgs., Whittaker, Clarke & Daniels, Bordeaux; 1,000 bgs., C. B. Chrystal, Bordeaux; 700 bgs., L. A. Salomon & Bros., Bordeaux; 200 bgs., C. Mathieu, Genoa; 200 bgs., Kountze Bros., Genoa; 400 bgs., Order, Genoa
TARTAR—200 bgs., C. Pfizer & Co., Marseilles; 192 bgs., Harshaw, Fuller & Goodwin, Tarragon; 791 bgs., Harshaw, Fuller & Goodwin, Marseilles; 54 bgs., American Ex. Inv. Tr. Co., Tarragoa
THORIUM & CERIUM NITRATE—10 cs., Pfaltz & Bauer, Hamburg
VIOLET BLOSSOM ASH—1 cs., Yardley & Co., London
WAX—Bees, 98 bgs., Nat. Bank of Commerce, Hamburg; 66 bgs., Order, Smyrna; 54 bls., Order, Lisbon; 64 bgs., American Trdg. Co., Rio de Janeiro; 100 bgs., Brown Bros. & Co., Calcutta; 48 bgs., R. Desvernine, Havana; 23 bgs., D. Steengrafe, Havana; 24 bgs., T. Norton Co., Rio de Janeiro; 24 bgs., W. R. Grace & Co., Valparaiso; 22 bgs., Fidelity International Tr. Co., Valparaiso; **Carnauba,** 110 bgs., Order, Pernambuco; **Mineral,** 10 bgs., Schliemann Co., Hamburg; **Montan,** 400 bgs., J. L. Bonifa e, Hamburg; **Spermacetti,** 50 cs., Smith, Nichols, Inc., Glasgow
WHITING—1,500 bgs., S. L. Libby Corp., Havre
WOODFLOUR—1,950 bgs., B. L. Solberski, Greaker
WOOL GREASE—10 kegs, 10 ..Lo Curto & Funk. London; 48 cks., W. J. Malmstron & Co., Hamburg
XYLOHOLL—20 cs., Atlantic Fwdg. Co., Hamburg

IMPORTS AT PHILADELPHIA

March 30 to April 6

ALCOHOL—Menthyl, 56 drs., Pilling & Co., Inc., Rotterdam
AMMONIA—Muriate, 100 cks., Harshaw Fuller & Goodman Co., Rotterdam
ARSENIC—50 cks., Order, Hamburg
BARK—Cinchona, 11 cs., E. H. Bailey & Co., Rotterdam
BAUXITE—2,033 tons, General Chemical Co., Georgetown, Dem; 2,180 tons, Republic Mining & Mfg. Co., Georgetown, Dem
BONES—Cuttle Fish, 21 bdls., Order, Bordeaux
CHEMICALS—33 cakes, Pilling & Co., Inc., Rotterdam; 8 drs., Order, Hamburg; 5 cs., Order, Hamburg; 153 demijohns, Order, Hamburg; 105 bbls., Order, Hamburg; 13 cs., Order, Hamburg; 156 drs., Order, Hamburg; 20 cks., Order, Hamburg
FERTILIZER—Nitrogenous, 441 bgs., Philip Bauer Co., Inc., Bremen
FLUORSPAR—2,200 bgs., Order, Genoa; 2,000 tons, Order, Toulon
FUSTIANS—242 bls., mixed, A. H. Searle, Inc., Rotterdam
GLUE—Bone, 3,000 bgs., Castle & Overton Inc., Rotterdam
GLYCERINE—30 drs., Order, Genoa; 178 drs., Order, Marseilles; 112 cks., Order, Marseilles; 30 drs., Order, St. Nazaire
GUM—Ester, 24 cs., O. G. Hempstead & Son, Rotterdam
KAINIT—227,556 kilos, Potash Importing Corp., Hamburg
LOGS—Mahogany and Cedar, 2,090, S. B Vrooman & Co., Ltd., Bluefields
MAGNESITE—103 cks., Chatham-Phenix Nat Bank & Tr. Co., Rotterdam
MEAL—Bone, 552 bgs., Order, Hamburg
METHYANON—52 drs., O. G. Hempstead & Son, Rotterdam
MOLASSES—580,000 gals., Old Time Molasses Co., Manzanillo
NAPHTHALINE—567 bgs., Castle & Overton, Inc., Rotterdam
OCHRE—80 bbls., Order, Marseilles
OIL—Cod Liver, 150 bbls., Order, Stavanger; **Olive,** 14 cs., Morris Friedman, Naples; 5 cs., Hudson Shipping Co., Naples; 1,400 cs., Order, Leghorn; 345 cs., Order, Genoa; 75 cs., Order, Genoa; **Soya Bean,** 25 bbls., Order, Rotterdam; **Sulfur Olive,** 100 bbls., Order, Palermo; 100 bbls., Leghorn Trading Co., Leghorn; **Sulfuric,** 100 bbls. Phila-Girard Nat. Bank, Messina; 950 bbls., Order, Messina
ORE—Chrome, 4,800 tons, E. J. Lavino & Co., Beira; 6,850 tons, E. J. Lavino & Co., Beira; 513 tons, Brown Bros. & Co., Delagoa Bay; **Manganese, 5,551,416** lbs., E. J. Lavino & Co., Secondi
OXIDE—Iron, 375 bbls., C. K. Williams & Co., Malaga; 115 bbls., C. J. Osborn & Co., Malaga; **Tin,** 3 bbls., Polar Ware Co., Hamburg
PEAT—Mull, 1,015 bls., Atkins & Dubrow, Inc., Bremen
POTASH—68 drs., Superfos Co., Hamburg; **Carbonate,** 12 cks., Castle & Overton, Inc., Rotterdam; **Caustic,** 60 drs., Superfos Co., Hamburg
SALTS—Epsom, 300 bgs., Order, Hamburg; **Glauber,** 250 bgs., Order, Hamburg; 500 bgs., Order, Hamburg
SODIUM—Nitrate, 257 bgs., R. W. Greeff & Co., Inc., Skein; **Phosphate,** 8 cks., Order, Rotterdam; **Prosulfite,** 250 drs., Castle & Overton, Rotterdam; **Prussiate,** 43 cakes, Order, Rotterdam
STARCH—Potash, 200 bgs., Castle & Overton, Rotterdam; 500 bgs., Stein, Hall & Co., Rotterdam
ZINC—Chloride, 22 bbls., Order, Hamburg

IMPORTS AT NEW ORLEANS

April 1 to 8

BENZINE—7,860 tons, Order, Curacao
BONE MEAL—4,572 bgs., Order, Rotterdam; 2,205 Sacks, Order, Hamburg
BAUXITE—2,301 tons, Republic Mining Co., Georgetown
CREOSOTE—9,391 tons, New York Trust Co., Amsterdam
FERRO-MANGANESE—120 tons, Order, Liverpool
GUM—Chicle, 1,158 bls., Miss. Warrior Service, Frontera; 394 bls., Chicle Development Co., Port Barrios; 678 bls., Wm. Wrigley Co., Conzumel; 212 bls., Wm. Wrigley Co., Vera Cruz
IRON OXIDE—500 sks., Order, Marseilles
LIME NITRATE—6,666 sks., Order, Rotterdam
MOLASSES—548,000 gals., Dunbar Molasses Co., Juacaro; 1,645,459 gals., Dunbar Molasses Co., Nuevitas; 762,875 gals., Penick & Ford, Banes
OIL—Olive, 455 cs., Order, Genoa; 850 cs., Order, Marseilles
PEAT MULL—30 bls., Order, Bremen
POTASH—Muriate, 450 sks., Order, Hamburg: **Sulphate,** 1,000 sks., Order, Hamburg
QUEBRACHO EXTRACT—100 sks., Order, Buenos Aires
SODA ASH—1,750 bgs., Order, Liverpool

IMPORTS AT BOSTON

April 3 to April 10

AMMONIA—Muriate, 20 cks., Kuttroff, Pickhardt & Co., Rotterdam
ACID—Formic, 80 balloons, R. & H. Chemical Co., Rotterdam; **Oxalic,** 20 cks., R. & H. Chemical Co., Rotterdam
SODA—Nitrate, 200 bgs., Kuttroff, Pickhardt & Co., Rotterdam; **Sulphate,** 11 drs., Kuttroff, Pickhardt & Co., Rotterdam
TRAGASOL—110 bbls., J. P. Marston & Co., Liverpool

IMPORTS AT BALTIMORE

April 1 to 7

BONE—Flour, 317 bgs., 56,936 lbs., Baugh & Sons Co., West Arrow, Antwerp; **Meal,** 298 bgs., 59,739 lbs., F. H. Shallus Co., Western Plains, Hamburg
CASTOR OIL—15 bbls., 6,824 lbs., John S. Connor, Western Plains, Hamburg
CHALK,—Ground, 100 bgs., 22,000 lbs., Cooper & Cooper. Inc, New York, Western Plains, Hamburg; 250 bgs., 55,000 lbs., Richard Coulston, West Arrow, Antwerp
CHEMICALS—600 bgs., Roessler & Hasslacher Chem. Co, Hostein, Bremen
CLAY—Raw, 200 cks., F. H. Shallus Co., Hostein, Bremen
FLUORSPAR—5,548,000 lbs., F. H. Shallus Co., Hostein, Bremen; 738 tons, Bethlehem Steel Corp., Chi kasaw, Middlesborough; 100 tons, Frank Samuel & Co., Chickasaw, Middlesborough
LIME—Nitrate, 1,000 bgs., 199,540 lbs., Kuttroff, Pickhardt & Co., New York, West Arrow, Rotterdam
MOLASSES—1,300,000 gals., Cuba Distilling Co., Catahoula, Cienfuegos
OIL—Cod, 100 bbls., Order, Chickasaw, Hull; **Lubricating, 15 drs., 6,600 lbs**, Kuehne, Libby Co., New York, West Arrow, Antwerp
ORE—Iron, 11,000 tons, Bethlehem Steel Corp., Santore, Daiquiri; 20,000 tons, Bethlehem Steel Corp., Cruz Grande; 10,500 tons, Bethlehem Steel Corp., Cubore, Cruz Grande; 11,000 tons, Bethlehem Steel Corp., Birmore, Daiquiri; **Manganese,** 7,685 tons, Bethlehem Steel Corp., Chastine Maerksk, Poti
PEAT—Ground, 140 bls., F. H. Shallus Co., Holstein, Bremen; **Moss,** 120 bls., F. H. Shallus Co., Holstein, Bremen; 120 bls., Order, Holstein, Bremen; **Mull,** 1,540 bls., Atkins & Durbrow, Inc., Holstein, Bremen
PHARMACEUTICAL PRODUCTS—3 drs., Glogan & Co., Western Plains, Havre; 33 cs., Glogan & Co., Western Plains, Havre
POLISH POWDER—1 package, Libby-Owens Sheet Glass Co., West Arrow, Antwerp
POTASH—94 cks., 59,248 lbs., Baltimore & Ohio R. R., Western Plains, Hamburg; 79 bbls., 82,735 lbs., Roessler & Haslacher Chem Co., West. Plains, Hamburg; 33 bbls., 35,398 lbs., Roessler & Hasslacher Chem. Co., Western Plains, Hamburg; 54 bbls., 48,421 lbs., Roessler & Hasslacher Chem. Co., Western Plains, Hamburg; **Caustic,** 68 drs., 56,855 lbs., Superfos Co., Inc., Western Plains, Hamburg; **Kainit,** 450 bgs., 99,990 lbs., Samuel Shapiro & Co., Western Plains, Hamburg; **Manure Salt,** 1,715,780 lbs., French Potash Syndicate, West Arrow, Antwerp; **Muriate,** 5,000 bgs., F. H. Shallus Co., Holstein, Bremen
SALT—250 bgs., 55,000 lbs., Order, Western Plains, Hamburg
SODA—Nitrate, 205 bgs., R. W. Greeff & Co., Ina, Louisiana; 257 bgs., R. W. Greeff & Co., Oslo, Louisiana; 94,528 bgs., 73,304 quintals. Wessel, Duvall & Co., Trafalgar; Iquiqui
WOOL GREASE—100 bbls., Samuel Shapiro & Co., Holstein, Bremen; 100 bbls., 47,333 lbs, Samuel Shapiro & Co., West Arrow, Antwerp
ZINC OXIDE—105 bbls., 43,923 lbs., William H. Masson, West Arrow, Antwerp

IMPORTS AT NORFOLK

Mar. 24 to Mar. 31

CASTOR MEAL—4,000 bgs.,, Ashcraft-Wilkinson Co., Hull
MANGANESE ORE—2,000 tons, Order, Calcutta
STARCH—Potato, 250 bgs., Order, Rotterdam
FERTILIZER—Nitrogenous, 180 bgs., Order, Hamburg
PEAT MULL—120 bls., Order, Rotterdam
NITRATE OF SODA—90,692 bgs., 7,487,890 kilos, Antony Gibbs & Co., Caleta Coloso
POTASH SALTS—Muriate, 3,000 bgs., 272,160 kilos, Soc. Com'l de Potasses de Alsace, Antwerp

Mar. 31 to Apr. 7

BAUXITE ORE—467 tons, Republic Mining & Manufacturing Co., Paramaribo, D. G.
BLOOD—Dried, 4,386 bgs., 200, 037 kilos, H. J. Baker & Bro., Buenos Aires
GREASE—Wool, 90 bbls., Order, Manchester
QUEBRACHO EXTRACT—5,727 bgs., 604,705 lbs., The Tannin Corp., Buenos Aires

IMPORTS AT WILMINGTON

Mar. 29 to Apr. 6

GUANO—2,500 tons, Order, Senegal, South Georgian Islands
NITRATE OF SODA—2,000 tons Order, Trafalgar, Chile
NITROGENOUS MATERIAL—1,500 tons, Order, Vogesen, Hamburg

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LESSON OF BRITISH CONSOLIDATION

(Continued from page 546)

tive object lesson of what may happen where there is no cohesion, no unity of effort, and no control exercised over the development of productive capacity. Until recently there has been but little recognition of a community of interest manifested in the cotton industry. Mills have been organized and built, and goods have been manufactured and thrown on to the market at the discretion of individuals and corporations without much regard to the capability for absorption which may exist. Even the two trade associations, North and South, have never functioned as anything more than social get-together organizations for the purpose of periodical re-unions and the discussion of practical manufacturing problems and non-essential topics.

The result has been to bring about, altogether apart from questions of production and merchandising, an unbalanced condition of over-production and duplication of effort which has destroyed a large part of the profit-making capacity of the industry. Add to that the radical changes in styles and fashions, with less and less cotton being called for, together with the fundamental changes in distribution brought about by the growth of the syndicates and catalogue houses,—whose interests seem to be diametrically opposed to the close consumer contact which many believe is the only ultimate salvation of the industry,—and the stage has been set for a decadence which has now gained a tremendous momentum.

The manufacturing chemical industry, in many of its major aspects as well as in its ultimate markets, is not far removed from the possibility of a similar experience. Over-production and duplication of effort is the deadly foe of commercial profits, and these conditions can only be controlled by a centralized authority functioning in the interest of the industry as a whole.

This is the object of the new consolidation in Great Britain; those concerns best fitted to produce certain products will be selected for the purpose and will be protected in their efforts and investments; weak factors will be weeded out of their activities directed into more suitable channels, and a permanent survey of the world markets will be maintained for the benefit of the constituent members of the consolidation. Such an association of interests,—under proper Government control for the protection of the public,—should be possible in this country without running contrary to our archaic anti Trust laws, and until a modification of these is effected American industry will be shackled in its efforts to gain a permanent position in the markets of the world.

CRYSTALLIZATION

(Continued from page 540)

ly of a chemically pure nature. The proceedure is most often used in the manufacture of pharmaceutical chemicals.

In large scale crystallization there are encountered many difficulties but the one most common is off-colored crystals. This is usually caused by the introduction or liberation somewhere in the process of an impurity of high coloring power. The cause and place of contamination should be found and if cannot be stopped, something to counteract it may be added. Sometimes the addition of a small amount of activated carbon as bone black, norite, surchar, etc. will eliminate the trouble.

Crystallization plays a large part in the market value of some compounds. It gives to some materials their entire physical characteristics or outward appearance. This cannot be overlooked as many purchases are made and confidence rests on the "looks" of the product alone. Years ago consumers preferred the large crystals of copper sulphate but refuse to accept anything but the small granular now. The surface color or lack of color in some crystalline compounds can be controlled also and some manufacturers use this as a means of imparting a characteristic appearance to their material.

It would be impossible to turn out constantly with uniform appearance, some of our heavy chemicals were it not for automatic or mechanical crystallizers. The mere fact that each shipment looks the same as the previous one to the consumer, is a very assuming and stabilizing factor in our business of today. Furthermore in some cases, mechanical crystallizers solve the problem of mass production in limited space with the minimum labor and incidental costs.

Department of Commerce and Chemistry

The Chief of the Chemical Division of Department of Commerce explains in No. 6 of a series of articles appearing in "United States Daily" the functions of the Government Department..

THE United States is the greatest producer of chemicals and allied products, and is also the greatest consumer of these commodities. Before proceeding further, perhaps it would be well to cite the number and extent of the various phases of industry falling within the purview of the Chemical Division. Dyes, heavy and industrial chemicals and drugs and pharmaceuticals, obviously, are chemical products. In addition, this Division handles fertilizers and fertilizer materials, plastics, explosives, paints, naval stores, pigments, toilet preparations and many other items too numerous to mention.

The field of the Division's operations is broad and complex. It requires knowledge not only of the latest developments of commercial and trade significance but also of a scientific and technical nature. That which is a laboratory development of today is an important item of trade and commerce tomorrow. There has been some misunderstanding of the character of the Division's activities. It should be remembered that this office has no test tubes or beakers to bother with; its tools and implements are statistics, reports and things of that nature.

AS to the extent of the job mapped out for the Division it may be summarized by saying that it is to help the chemical industry to decide what can be sold, where it can be sold, when it can be sold, and how it can be sold. In common with all other divisions of the Bureau of Foreign and Domestic Commerce, the Chemical Division is fortunate in that it has no regulatory authority. It is charged with no policing or investigational duties. It has one obligation and one ambition, to render constructive assistance to the chemical industry in the United States.

The information gathered in the Chemical Division comes from the same sources as that collected in other Divisions—from the far-flung consular and diplomatic services of the United States, from the Foreign Service offices of the Department of Commerce, and as a result of special investigations of particular conditions.

THROUGH its close cooperative contacts with the other Divisions of the Bureau of Foreign and Domestic Commerce, the Chemical Division is in a position to offer the chemical industry pertinent information on subjects such as Foreign Tariffs; the possibility of obtaining suitable foreign representatives and the standing and credit of individual prospective representatives; on the proper packing and marking of merchandise for export; on proper documentation of shipments to avoid delays and possible fines at foreign ports, and numerous other related subjects.

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Application date appears with each patent.

UNITED STATES PATENTS
Issued March 29, 1927

1,622,271. — Acylamino-Hydroxybenzene Arsine Oxide. L. Benda, assignor, I. G. Farbenindustrie A. G., Frankfurt, Germany. June 19, 1925.

1,622,353. — Composition for Marking Cloth. D. H. Shapiro, Montreal. June 14, 1926.

1,622,372.—Hydrocyanic Acid Process. W. Glund, Dortmund-Eving, Germany. Apr. 18, 1924.

1,622,379.—Luminescent Product. A. G. Guntz, Nancy, France. May 8, 1922.

1,622,390.—Fish Oil Powder. W. E. Miller, Vineland, N. J., assignor, Simo Chemical Co. Mar. 5, 1926.

1,622,425.—Still. H. M. Lasher, Kansas City, Kan., assignor, The Kansas City Gasoline Co. July 1, 1920.

1,622,426.—Treating Hydrocarbon Oils. H. M. Lasker, assignor, The Kansas City Gasoline Co. Nov. 16, 1920.

1,622,496. — Cellulose Fiber Product Treated with Size Embodying Soya Bean Flour and process. G. Davidson, H. P. Ripley, C. N. Cone, I. F. Laucks and H. P. Banks, assignors, I. F. Laucks, Seattle. May 3, 1926.

1,622,534-6.—Accelator and Vulcanizing Process. P. I. Murrill, Plainfield, N. J., assignor, R. T. Vanderbilt Co., Inc., New York. Sept. 30, 1925.

1,622,572.—Fuel for Automotors. E. F. Chandler, Brooklyn. Dec. 23, 1924.

1,622,684.—Fertilizer. A. G. Stillwell, Coscob, Conn. Oct. 21, 1924.

1,622,690.—Azo Dyestuffs Derived from 2-Hydroxynaphthalene-3-Carboxylic Acid Arylamides. H. Wagner, Hoechst, assignor, I. G. Farbenindustrie A. G., Frankfurt, Germany. Mar. 17. 1922.

1,622,695.—Impact Pulverizer. A. B. Willoughby, Philadelphia. Jan. 31, 1925.

1,622,731.—Aqueous Solutions of Free Cyanamid, process. A. M. Muckenfuss, Woodbridge, N. J., assignor, The Roessler & Hasslacher Chemical Co., New York. Aug. 14, 1924.

1,622,737.—Separating Hydrocarbon Fractions, process. D. Pyzel, Piedmont, Calif., assignor, Simplex Refining Co., San Francisco. Aug. 23, 1923.

1,622,751.—Wood Preservative. K. H. Wolman, Berlin-Grunewald, F. Peters, and H. Pflug, Berlin. Jan. 30, 1926.

1,622,794. — Fluid Pressure Operated Means for Indicating Quantity and Specific Gravity of Liquid Contents of Tanks. H. Martin, Porstmouth, England. Aug. 7, 1926.

1,622,809.—Insulating Liquid. C. J. Rodman, Wilkinsburg, Pa., assignor, Westinghouse Electric & Mfg. Co. Oct. 25. 1921.

1,622,879.—Refining Oils. H. O. Parker, Tulsa, Okla., The Mathieson Alkali Works, New York. Jan 22, 1925.

1,622,881-2.—Pressure Control for Hydraulic Oil Storing and Delivering Systems. W. J. Peter, New York. Oct. 16, 1925.

1,622,918.—Evaporator. I. Merlis, assignor, Kelvin Engineering Co., Inc., New York. May 5, 1926.

1,622,921.—Drier. C. Offenhauser. Philadelphia. May 25, 1922.

1,622,941.—Apparatus for Condensing Oils. C. B. Buerger, Pittsburgh, Pa., assignor. Gulf Refining Co. July 18, 1924.

1,622,964.—Distilling Process. J. S. Morgan, London, assignor, Thermal Industrial and Chemical Research Co., Ltd. Jan. 30, 1923.

1,622,974.—Decomposing Fats or Oils Into Fatty Acids and Glycerin. A. S. Richardson and C. V. Conley, Cincinnati, assignors, The Procter & Gamble Co. Mar. 13, 1922.

1,622,991.—Treating Formate of Metals of the Alkali Earth Group. O. P. C. Bredt, Allentown, assignor, Trojan Powder Co., New York. Apr. 7, 1921.

1,623,005.—Azo Dyestuffs Containing Chromium and process. H. Gubler, H. Stahel and F. Straub, assignors, the Society of Chemical Industry in Basle, Basle, Switzerland. June 21, 1926.

1,623,017.—Drying Apparatus. G. W. Christoph, Warehouse Point, Conn., assignor, one-half each, The American Hardware Corp. and The Sterling Blower Co., Hartford, Conn. Dec. 14, 1925.

1,623,018.—Treating Petroleum. R. Cross, Kansas City, Mo. Apr. 26, 1924.

1,623,025.—Converting Higher Boiling Petroleum Hydrocarbons Into Lower Boiling Petroleum Hydrocarbons. C. B. Buerger, assignor, Gulf Refining Co., Pittsburgh. July 22, 1925.

BRITISH PATENTS
Issued March 2, 1927

263,825.—Violanthrone and Isovalanthrone Dyes. Society of Chemical Industry in Basle, Basle, Switzerland. Dec. 24, 1926.

263,838.—Drying Apparatus. J. Pasquiers, Vienne, France. Dec. 28, 1926.

263,943. — Anthraquinonethiomorpholines. I. G. Farbenindustrie A. G., Frankfurt. Dec. 29, 1926.

263,844.—Chlorinated Alkynaphthalenes. I. G. Farbenindustrie A. G. Dec. 29, 1926.

263,845.—Oxy and Alkyloxydibenzpyrenequinones. I. G. Farbenindustrie A. G. Dec. 29, 1926.

263,849.—Waterproofing Paper. H. Quittner, Vienna. Dec. 29, 1926.

263,853.—Aldehyde Amine Condensation Products. I. Williams and W. B. Burnett, Pittburgh, assignors. Grasselli Chemical Co., Cleveland. Mar. 8, 1926.

263,859.—Treating Gases with Electric Discharges. I. G. Farbenindustrie A. G. Dec. 30, 1926.

263,861.—Dibenzathrone Dyes. I. G. Farbenindustrie A. G. Dec. 30, 1926.

263,872. — Hydrocyclo-caouchouc. H. Staudinger, Frieburg, Baden, Germany. Dec. 30, 1926.

263,873. — Wetting and Emulsifying Agents. F. Pospiech, Dresden, assignor, Chemische Fabrik Pott & Co. Dec. 31, 1926.

263,877.—Dehydrogenated Compounds. I. G. Farbenindustrie A. G. Jan. 3, 1927.

263,879.—Triarylmethane Dyes. I. G. Farbenindustrie A. G. Jan. 3, 1927.

263,886.—Titanium Sulphate. Spence & Sons, Ltd., A. Kirkham and H. Spence, Manchester. July 1, 1925.

263,893.—Sugar Cane Mills. F. Maxwell, Wallington, Surrey. July 9, 1925.

263,898.—Leuco Compounds of Vat Dyes. B. Wylam, Lancaster, J. E. G. Harris, Carlisle, J. Thomas and Scottish Dyes, Ltd., Grangemouth. Aug. 5, 1925.

263,922.—Lime and Carbon Dioxide. P. E. Haynes, East Aurora, N. Y. Oct. 3, 1925.

263,938-9.—Cellulose Esters. H. Dreyfus, London. Oct. 6, 1925.

263,942.—Binders for Powdered Materials. A. Tapping, Revelstoke, British Columbia, Canada. Oct. 6, 1925.

263,975.—Dust Preventing Compositions for Roads. Allchemin Allgemeine Chem. Industrie A. G. and R. Lichtenstein, Vienna. Nov. 3, 1925.

263,998.—Heating or Drying Apparatus. J. R. Preston, London. Dec. 3, 1925.

264,022.—Paints. S. A. McMinn, London. Jan. 27, 1926.

264,038.—Bitumen Boilers. W. E. Braham, London. Mar. 2, 1926.

264,050.—Dehydrating Alcohol. E. A. Barbet, Paris. Apr. 26, 1926.

264,079.—Deaerting Liquids. K. J. Svensson, Lindingoe, and K. A. Norling, Soedertoerns, Villastad, Sweden. July 31, 1926.

264,124.—Glycols. G. O. Curme, Charleston, W. Va., asignor, Carbide & Carbon Chemicals Corp., New York. July 5, 1926.

264,130.—Centrifugal Separation of Liquids. K. J. Svensson and K. A. P. Norling, Villastad, Sweden. Sept. 3, 1926.

GERMAN PATENTS
Issued March 10, 1927

439,792.—Distilling Column. H. Vollmann, Hamburg. June 13, 1924.

439,802.—Recovery of Solvents from Coating Machine. E. Rohlin, Berlin. Feb. 13, 1924.

439,803.—Filtering and Evaporating Liquids, process and apparatus. Genter Thickener Co., Salt Lake City. Apr. 27, 1921.

439,777.—Uniform Distribution of Gas Stream in Electrical Purifying Apparatus. Siemens-Schuckertwerke G.m.b.H., Berlin-Siemenstadt. Aug. 19 ,1925.

439,885.—Electrolysis with High Current Density. Siemens & Halske A. G., Berlin-Siemenstadt. Nov. 16, 1922.

439,937.—Hydrogen. F. G. Liljenroth, Stocksund, Sweden. Nov. 26, 1922.

439,834. — Hydrogen Peroxide. G. Schmidt, Muenchen. Oct. 14, 1921.

439,998.—Nitric Acid, Hydrochloric Acid and Sodium Bisulphate. Dr. G. Guadagni, Turin. Dec. 13, 1924.

439,843.—Artificles from Molten Carbon. I. G. Farbenindustrie A. G., Frankfurt. July 1, 1925.

439,763.—Crude Carbon Disulphide. I. G. Farbenindustrie A. G. Oct. 25, 1925.

439,941.—Separating Hagnium and Zirconium Compounds. N. V. Philips' Gloeilampenfabriken, Eindhoven, Holland. Nov. 9, 1924.

439,795.—Finely Divided Litharge. T. Goldschmidt A. G., Essen. Nov. 16, 1921.

439,844.—Cellulose Xanthogenate. W. P. Dreaper, Lonlon. Dec. 11, 1921.

439,912.—Resinous Condensation Products from Aryloxyacetic Acid and Formaldehyde. I. G. Farbenindustrie A. G. Mar. 26, 1920.

439,804.—Tar and Tar Oils Decomposition in Pitches and Oils Without Distillation. H. Walbel, Steele, Ruhr. July 1, 1926.

432,177.—Chlorine-Fast Sulphur Dyestuffs. Kalle & Co., A. G., Biebrich. Aug. 13, 1922.

439,974. — Weather-Resistant Lithopone. J. L. Mitchell, New York. Dec. 29, 1922.

439,712.—Continuous Distillation of Mineral Oils. Dr. E. Bluemmer, Muenchen. July 31, 1921.

439,831.—Phosphates for Egg Preservation. E. Merck, Darmstadt. Aug. 20, 1924.

FRENCH PATENTS
Issued Feb. 24, 1927

621,384.—Barnyl Hydrochloride. O. Ramuz. Jan. 12, 1926.

621,398-9.—Pinene Hydrochloride. Societe d'Etudes pour le Camphre de Synthese. Jan 13, 1926.

621,580.—Regeneration of Phosphoric Acid Catalysts. I. G. Farbenindustrie A. G. Sept. 15, 1926

621,604.—Polmerized Vinyl Chloride. L. A. Van Dyk. June 10, 1926.

621,625.—Concentrated Phosphoric Acid. I. G. Farbenindustrie A. G. Sept. 17, 1925.

621,420.—Pure Organic Colors Containing Caesium. R. P. Delaplace. July 3, 1926.

621,616.—Mastics. I. G. Farbenindustrie A. G. Sept. 16, 1926.

621,328.—Extraction of Fatty Substances, apparatus. Societe Anonyme des Ateliers Armand et Deoune. Jan. 2, 1926.

621,462.—Furfurol Base Motor Fuel. C. P. M. Jeanprest. Aug. 23, 1926.

621,550.—Hydrocarbons. I. G. Farbenindustrie A. G. Sept. 15, 1926.

621,323.—Vulcanization of Rubber. T. Durst. Dec. 31, 1925.

621,411.—Wood Rosin of High Quality. Hercules Powder Co. Apr. 29, 1926.

621,505.—Purifying Crude Benzol. I. G. Farbenindustrie A. G. Sept. 14, 1926.

621,358.—Concentrating Liquids. A. Huillard. Jan. 7, 1926.

621,347.—Gas Washer. L. Mourgeon. Jan. 6, 1926.

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621,388.—Absolute Alcohol Apparatus. Societe Etablissements Poulenc Freres. Jan. 12, 1926.
621,405.—Concentrators. E. J. Sweetland. Mar. 5, 1926.
621,577.—New Product and process. J. Pelny. Sept. 16, 1926.
621,353—Catalytic Synthesis. P. Girard and J. Dreyfus. Jan. 7, 1926.
621,414.—Refining Graphite. J. F. M. Reginald de Robillard. Mar. 4, 1926.
621,434.—Catalysts. I. G. Farbenindustrie A. G. July 20, 1926.
621,499.—Refractories. Compagnie Francais pour l'Exploitation des Procedes Thomson-Houston. Sept. 13, 1926.
621,589.—Neutralizing Process. M. Fuju. Sept. 16, 1926.
621,607.—Refractory Products. Scheidhauer & Giessing A. G. June 19, 1926.

Exports Chemicals, Oils and Fats

EXPORTS AT NEW YORK

ACETONE—8 cs., Mar. 8, Buenos Aires

ACIDS—**Acetic,** 3 bbls., Mar. 15, Progreso; **Glacial Acetic,** 13 cts., 11 crbys., 20 cts., Mar. 24, Tampico; **Phosphate,** 18 pgs., Mar 24, Rio Grande do Sul; **Phospherous,** 4 straps, Mar. 16, Vera Cruz; **Sulphuric,** 50 drs., Mar. 17, Talara; 2 crbys., Mar. 16, Progreso; **Tartaric,** 16 bbls., Mar. 19, Sydney

ALCOHOL—**Methyl,** 5 cks., Mar. 23, Guantanoma

AMMONIUM—**Anhydrous,** 50 cyl., Mar. 11 Capetown; 3 cyl., Mar. 24, Tampico; 4 cyl., Mar. 16, Progresso; **Sulfate,** 5,606 bgs., Mar. 29, Probolingo; 3,879 bgs., Mar. 29, Panaroekan

AMMONIAC—**Sal,** 3 bbls., Mar. 24, Vera Cruz

ANTIMONY REGULUS—40 cs., Mar. 28, Buenos Aires

ASPHALT—91 bbls., Mar. 18. Montevideo; 1,388 bbls., Mar. 18, Montevideo; 250 bbls., London, 217 bbls., Mar. 17, Chanaral; 119 drs., 544 bbls., Mar. 15, Malmo; 992 bbls., Mar. 17, Montevidio

BARKS—10 bgs., Mar. 18, Gothenburg; **Ash,** 1 bale, Mar. 25, London

BLEACHING POWDER—502 drs., Mar. 18, Montevideo;

BONE BLACK—60 bbls., Mar. 25, London

CALCIUM CARBIDE—6 cs., Mar. 18, Pto. Castilla

CHLORINE—7 cyls., Mar. 24, Vera Cruz

COAL TAR—15 bbls., Mar. 4, Havana; 20 bbls., Mar. 17, Callao

COLORS—9 bbls., 1 cs., Mar. 24, Vera Cruz; 10 bbls., Mar. 16, Progreso; 5 bbls., Mar. 23, Santiago; 40 bbls., Mar. 25, Liverpool; 6 bbls., Mar. 24, Vera Cruz; 12 drs., Mar. 23, Mollendo

COPPER SULFATE—200 kegs, Mar. 18, Bahia Blanca;

CORN FLOUR—140 bgs., Mar. 25, London; 50 bgs., Mar. 16, Progreso; 200 bgs., Mar. 23, Havana

CORN STARCH—50 bbls., Mar. 25, Liverpool; 1 bag, Mar. 25, London; 20 bgs., Mar. 1, Bocas del Toro; 130 bgs., Mar. 18, Rotterdam; 80 bgs., Mar. 18, Gothenburg

CORN SUGAR—250 bgs., Mar. 25, London

CORN SYRUP—38 bbls., Mar. 24, Santos; 120 bbls., Mar. 18, Rotterdam; 18 bbls., Mar. 19, Sydney

CYANIDE—1,875 drs., Mar. 24, Vera Cruz; 10 drs., Mar. 24, Rio de Janeiro; 1,004 drs., Mar. 16, Vera Cruz; 250 drs., Mar. 16. Tampico

DEXTRINE—200 bgs., Mar. 18, Manchester; 392 bgs., Mar. 25, London; 32 bgs., Mar. 16, Vera Cruz

DYESTUFFS—10 drs., Mar. 24, Tampico; 11 drs., Mar. 16, Vera Cruz; 22 drs., Mar. 23, Mollendo; 4 drs., Mar. 23, San Antonio; 37 drs., Mar. 16, Gothenburg; 74 drs., Mar. 18, Gothenburg

EXTRACTS—**Logwood,** 11 bbls., Mar. 16, Norrokoeping; **Tanning,** 450 bgs., Mar. 16, Vera Cruz; **Witchhazel,** 25 bbls., Mar. 25, London; 25 bbls., Mar. 18, London

FERRO MANGANESE—8 bgs., 16 cks., Mar. 24, Vera Cruz

GLAUBER SALTS—7 bbls., Mar. 24, Vera Cruz; 10 bbls., Mar. 17, Valparaiso

GLUCOSE—15 bbls., Mar. 11, Port Natal; 300 bbls., Mar. 24, Alexandria; 42 bbls., Mar. 24, Alexandria

GLUE—11 cs., Mar. 22, Bordeaux

GUMS—**Arabic,** 6 bgs., Mar. 16, Vera Cruz; **Guaiac,** 11 kegs, Mar. 25, London

HEXAMETHYLENETRAMAN—8 drs., Mar. 24, Melbourne

HYDROGEN PEROXIDE—10 cs., Mar. 24, Vera Cruz; 59 cs., Mar. 17, Callao; 30 cs., Mar. 23, Callao; 30 cs., Mar. 23, Mollendo

HYPO SYRUP—263 cs., Mar. 18, Manchester

IRON SULFATE—5 bbls., Mar. 23, Mollendo

LEAD—**Arsenate,** 45 cs., Mar. 19, Sydney; 18 cs., Mar. 19, Adelaide; 123 cs., Mar. 19, Melbourne

LINSEED OILCAKE—7,594, bgs., Mar. 18, Rotterdam

METHYL CHLORIDE—3 cyls., Mar. 24, Vera Cruz; 6 drs., Mar. 17, Buenos Aires

MILK MAGNESIA—11 cs., Mar. 18, Pto. Barrios; 134 cs., Mar. 4, Havana; 7 cs., Mar. 17, Callao; 5 cs., Mar. 1, Vera Cruz

NICOTINE SULFATE—40 cs., 37 drs., Mar. 25, London

OILS—**Coconut,** 60 drs., Mar. 23, Havana **Chalmoogra,** 4 cs., Mar. 18, London; **Neatsfoot,** 9 pgs., Mar. 16, Vera Cruz; **Soya Bean,** 260 pgs., Mar. 23, Santiago

PITCH—30 bbls., Mar. 4, Havana

POTASSIUM SALTS—**Bichromate,** 2 bbls., Mar. 24, Tampico; **Chlorate,** 25 kegs, Mar. 16, Progreso; 500 kegs, Mar. 23, Havana

ROSIN—1,000 bxs., Mar. 18, Montevideo; 200 bbls., Mar. 18. Bahia Blanca; 115 bbls., Mar. 18, Toluma; 23 bbls., Mar. 8, Capetown; 45 bbls., Mar. 8, Delagoa Bay; 15 bbls., Mar. 7, Mollendo; 66 bbls., Mar. 24, Maranham; 35 bbls., Mar. 19, Melbourne; 93 bbls., Mar. 24, Para; 10 drs., Mar. 18, London

SCOTT'S EMULSION—60 pgs., Mar. 23, Santiago

SOAP—250 cs., Mar. 25, Jacmel; 50 cs., Mar. 25 St. Marc; 250 cs., Mar. 25, Gonaives; 150 cs., Mar. 15, Kribi; 200 cs., Mar. 18, Montevideo; 350 cs., Mar. 18, Belize; 100 cs., Mar. 16, Vera Cruz; 102 cs., Mar. 23, Valparaiso

SODIUM SALTS—11 kgs., Mar. 23, Mollendo; **Ash,** 15 bbls., Mar. 16, Vera Cruz; 5 bbls., Mar. 23, Maranham; 11 bbls., Mar. 19, Melburne; **Bicarbonate,** 20 kegs, Mar. 25, St. Maro; **Bisulfite,** 20 bbls., Mar. 29, Batavia; **Carbonate,** 100 bbls., Mar. 25, Santiago; **Caustic,** 750 cs., Mar. 24. Ceara; 45 drs., Mar. 8, Port Natal; 301 drs., Mar. 29, Batavia; 80 drs., Mar. 24, Tampico; 25 drs., Mar. 24, Tampico; 300 drs., Mar. 24, Rio de Janeiro 247 drs., 1,000 cs., Mar. 24, Santos; 320 drs., Mar. 18, Monevideo; 137 drs., Mar. 8, Delagoa Bay; 37 drs., Mar. 17, Salaverry; 10 drs., Mar. 17, Salaverry; 30 drs., Mar. 16, Progreso; 100 drs., Mar. 16, Vera Cruz; 15 cs., Mar. 23, Talcahuano; 50 cs., Mar. 24, Maranhan; **Cyanide,** 13 cs., Mar. 29, Benkoelen; **Hydrosulfite,** 10 kegs, Mar. 23, Santiago; **Hyposulfite,** 6 bbls., Mar. 24, Tampico; **Nitrate,** 20 bgs., Mar. 16, Tampico; **Silicate,** 6 drs., Mar. 29, Cheribon; 300 bgs., Mar. 24, Tampico; 10 bbls., Mar. 16, Vera Cruz

STARCH—125 cs., Mar. 11, Algoa Bay; 50 cs., Mar. 11, Delagoa Bay; 225 cs., Mar. 11, Capetown; 150 cs., Mar. 11, Port Natal; 240 bgs., Mar. 24, Alexandria; 1,200 bgs., Mar. 24, Alexandria; 100 bgs., Mar. 24, Piraeus; 3,000 cs., Mar. 24, Alexandria

SULPHUR—100 bgs., Mar. 23, Callao; Dioxide, 6 cyls., Mar. 8, Capetown

TALC—100 bgs., Mar. 17, Mo'lendo

TARTAR—**Cream,** 10 kegs, Mar. 16, Vera Cruz

ULTRAMARINE BLUE—14 bbls., Mar. 16, Progreso

ZINC OXIDE—480 bbls., Mar. 18, Manchester; 200 kegs, Mar. 29, Sourabaya; 10 bbls., Mar. 11, Port Natal; 800 bbls., Mar. 22, Havre; 20 bbls., Mar. 16, Vera Cruz; 1,600

NITRATE SALES IMPROVE

Chile's Minister of the Treasury has outlined the Government's stand on the nitrate situation, says a cablegram from Commercial Attache Brooks, Santiago, reiterating the statement that there would be no reduction in the export tax and that centralized sales would not be permitted after June 30. The government is to organize a technical and research department to aid the nitrate industry, and has promised to lower freight rates on the nitrate railways, duties on bags and other items entering into nitrate production. The cable says further:

The Government is also working on a plan to reduce the cost of iodine and to increase the sales.

The Nitrate Association is holding a meeting April 7 to amend the regulations so as to permit advancing the date of unrestricted sales to May 15, and permitting shipments to move forward on June 15. Nitrate sales were fairly active in March and it is estimated locally that consumption of nitrate during the remainder of the nitrate year (ending June 30) will equal the visible stocks, thus eliminating any carry over or return of nitrate under the repurchased guarantee.

The twenty-eight oficinas working at the end of February produced 742,527 metric quintals of nitrate, compared with 2,201,764 metric quintals in February, 1926. Exports were 1,717,669 metric quintals compared with 1,796,360 for February last year. World stocks at the end of February were 16,504,321 metric quintals, compared with 17,100,778 in the corresponding date of last year.

Explosives manufactured in the United States and sold in February for domestic consumption are estimated at 530,700 kegs of 25 pounds each of black blasting powder, 5,412,000 pounds of permissible explosives, and 22,154,000 pounds of high explosives other than permissibles. These estimates are based on actual sales of 520,078 kegs of powder, 5,403,594 pounds of permissibles, and 20,815,703 pounds of other high explosives reported by manufacturers to the U. S. Bureau of Mines. Compared with sales in February last year the figures indicate increases in all three classes of explosives.

Copper production in Chile continued at a heavy rate throughout March, and exports up to March 1 were reported at 38,198 tons, an increase of 21,360 tons compared with the same period of last year. No demand exists for imported coal, and prices are ruling about the same as last month.

IN THE PRESS.

SOAP AND GLYCERINE MANUFACTURE

A MODERN TREATISE ON THE PRODUCTION OF SOAPS OF ALL KINDS, AND ON THE RECOVERY AND DISTILLATION OF GLYCERINE.

BY E. T. WEBB

DIRECTOR, THE BIDSTON SOAP COMPANY, LTD., MANCHESTER.

FORMERLY: Manager, Messrs. McLintons, Ltd., and Messrs. David Brown and Sons, Ltd., Donaghmore, County Tyrone, Ireland; Chemist-in-Charge, Glycerine Distillation Plant, H.M. Factory, Gretna; Manager, Royston Soaps, Ltd., Glasgow; Assistant to Works Manager, C.W.S. Soap Works, Irlam, Manchester; Assistant to Works Manager, Lever Bros., Ltd., Port Sunlight.

MR. WEBB HAS WRITTEN A HANDBOOK WHICH IS ESSENTIALLY PRACTICAL. THE SOAP MAKER AND THE GLYCERINE DISTILLER WILL FIND IN IT JUST THE INFORMATION THEY REQUIRE TO ENABLE THEM TO IMPROVE THE QUALITY OF THEIR PRODUCTS, TO CUT DOWN COSTS, AND TO MEET FLUCTUATING MARKET CONDITIONS IN REGARD TO RAW MATERIALS. THE SELECTION OF THE OILS AND FATS FOR THE MANUFACTURE OF THE VARIOUS QUALITIES OF SOAP IS TREATED BY A NOVEL METHOD WHICH SHOULD BE OF THE UTMOST PRACTICAL VALUE.

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Empty Drums	Sodium Bicarbonate
Olive Oils	Sulphate of Ammonia

Crude and Refined Sulphur

Powder Manufacturers' Supplies and Fertilizer Materials of All Kinds

ANSWERS TO "WHAT DO YOU KNOW?"

1. Manufacture from acetate of lime; Brewster process of extraction with ether; manufacture with calcium carbide a as starting point.
2. Ammonia. Hydrogen.
3. George D. Rosengarten. Dr. Edward R. Weidlein.
4. Sept. 27 to Oct. 1. New York City.
5. Two.
6. Merrimac Chemical Co. Monsanto Chemical Works.
7. John A. Chew.
8. C. C. Concannon; William H. Nichols.
9. Imperial Chemical Industries.
10. Salt cake, Glauber's salts, anhydrous sodium sulfate.
11. Epsom salts, sal ammoniac, sal soda.
12. Methanol, acetate of lime, charcoal.
13. John E. Teeple. Dr. Roger T. Adams.
14. By-products of fermentation of corn for butyl alcohol.
15. Pyridine.
16. Nitrogen.
17. Aniline Oil.
18. Mathieson Alkali Works; American Solvents & Chemical Corp.; Kentucky Alcohol Co.; American Potash & Chemical Corp.; Barrett Co.; Michigan Alkali Co.
19. President of Allied Chemical & Dye Corp.; General Sales Manager Dow Chemical Co.; Head of Joseph Turner & Co. Consulting Chemist of firm Weiss & Downs.
20. (a) By-product; (b) Major product; (c) By-Product; (d) Major product.
21. Yes. At Muscle Shoals, Ala.
22. Oxalic acid, barium dioxide, potassium chlorate, sodium nitrite.
23. White ammonium Chloride.
24. Denatured alcohol.
25. United States Pharmacopoeia; Electro Bleaching Gas; American Chemical Society; Badische Anilin und Soda Fabrik.

Pottery Section of British Industries Fair, London, showed a collection of table ware, such as cups and saucers, and plates, made of synthetic resin. This table ware is very attractive in appearance, while not exactly unbreakable will withstand ordinary hard usage such as dropping on the floor without breaking or cracking.

NEW DYES FOR ACETATE SILK

(Continued from page 545)

cotton or rayon portion of the fabric without affecting the acetate portion.

The Celliton and the Celliton fast colors are furthermore suited to dyeing mixed fabrics which contain wool or silk as well as acetate rayon. This applies just as much to the production of uni-tones as well as multitone effects, which can be readily obtained by selecting the proper wool and silk dyestuffs.

The third and last method of dyeing applies to the use of Cellitazols or developed dyestuffs. The first step in the process of using these dyestuffs is their solution. Cellitazol ORB and ST will dissolve in hot water. In case a small undissolved residue is found in dissolving Cellitazol ST, the same is treated with a little acetic acid of six degrees Be concentration and is then brought into solution by the additional use of hot water.

One part of Cellitazol SR and ST can be dissolved in one of two ways. Thus it will be dissolved in thirty to fifty parts of boiling water and two parts of hydrochloric acid of twenty degrees Be concentration. It

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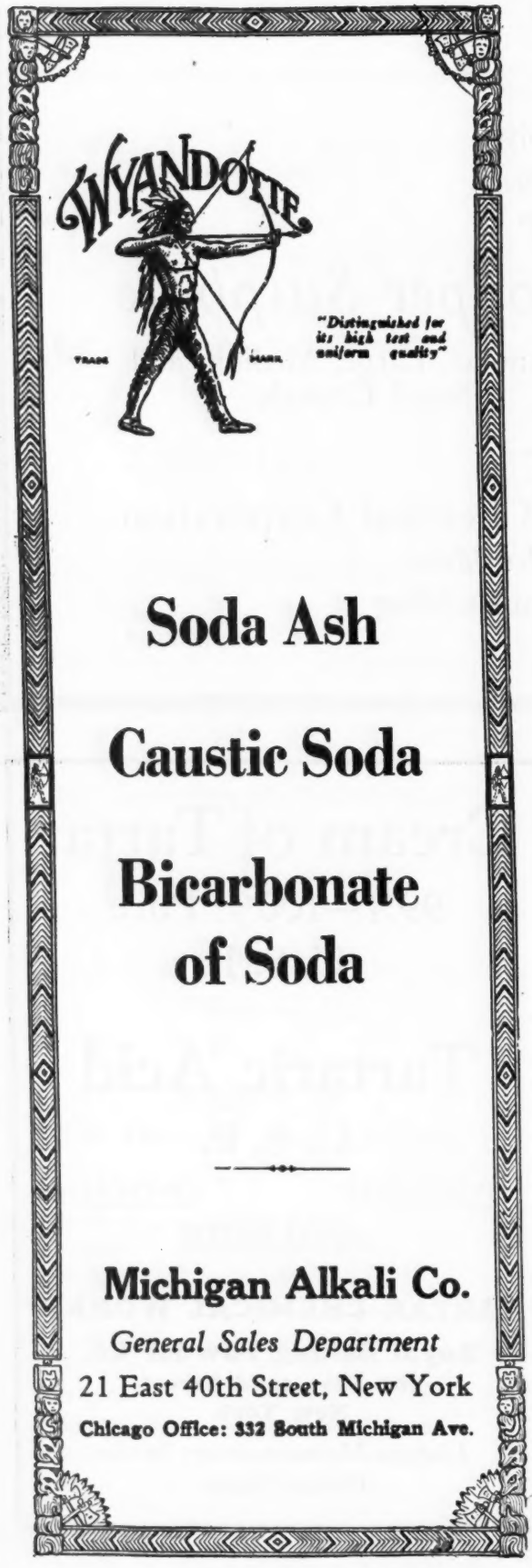

will also be dissolved in a mixture of three parts of tetralin, four and one half parts of soap, half a part of calcined soda and one hundred parts of water which is as free from lime as possible. The solution of the color is effected by boiling for a few minutes. Attention is called to the importance of seeing that Cellitazol SR is completely dissolved in the water.

One part of Cellitazol R and RB can be dissolved in one of two different ways. In the first place it can be dissolved in ten times the amount of cold formic acid, eighty five per cent solution. After boiling hot water has been added, the finely precipitated dyestuffs is made up into complete and final solution in the following manner. When Cellitazol R is being used, 0.4 liter of twenty degrees Be concentrated hydrochloric acid is added per hundred grams of the dyestuff; in the case of Cellitazol RB 0.8 liter of twenty degrees Be concentrated hydrochloric acid are added per hundred grams of the dyestuff.

It is also possibe to dissolve these dyestuffs by using tetralin, soap and soda. After these solutions have been made, they are always passed through a fine meshed screen before being added to the dye liquor.

When mixed fabrics are being dyed in which animal fibers and acetate rayon are present, the dissolving of Cellitazols SR, B, R and RB can be accomplished only with the aid of acids, the tetralin process being inapplicable.

The next step in the process is the dyeing of the fabric or yarn. Cellitazol ST, R and RB require no further addition to the dye liquor, while in the case of Cellitazol ORB thirty to fifty per cent of calcined Glauber's salt and five per cent of six degree Be concentrated acetic acid and in the case of Cellitazol SR and B, when these dyestuffs are dissolved in accordance with the acid process, from five to fifteen per cent of sodium acetate is added to the dye liquor after it has been allowed to stand for approximately fifteen minutes.

When the tetralin dissolving process is employed, it is necessary to make up the dye liquor with water that is as soft as possible. Water, which contains lime salts, must be freed from its lime content by the addition of one half to one gram of calcined soda per liter before the dyestuffs has been added. The addition of a little more tetralin and soap is advantageous in dyeing lighter shades.

THE acetate fabric or yarn is introduced into the liquor, the proportion of liquor to fabric being approximately thirty to one. The temperature of the ground color or dyeing liquor is 40 degrees C and then the temperature is raised after a short time to 60 to 70 degrees C. After a period of approximately half to three quarters of an hour has elapsed, the fabric is washed with cold water and it is then diazotized in a fresh cold bath as described below.

The diazotization is accomplished in a fresh cold bath containing four per cent of sodium nitrate and ten per cent of twenty degree Be concentrated hydrochloric acid, the treatment lasting twenty minutes approximately. Then the material is treated with the developing liquor without further delay.

In the case of Cellitazol SR, for producing black shades, six per cent of sodium nitrite and fifteen per cent of twenty degree Be concentrated hydrochloric acid.

Phenol and resorcin, which are used as developers, easily dissolve in warm or hot water. Betanaphthol is brought into solution by cooking with double the amount of Turkey red oil and twenty parts of water or after making the product into the state of a paste with a little hot water and treating with the same amount by weight

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of sodium hydroxide of 38 to 40 degrees Be concentration, and further addition of hot water.

Developer B is dissolved in hot water with the addition of a little hydrochloric acid.

One hundred grams of Developer ON are dissolved in hot water with the addition of thirty grams of calcined soda, or the product is dissolved in the same manner as has been described above, the same quantity of sodium hydroxide lye of 38 to 40 degrees Be concentration being employed.

The developing of the color takes place in cold to lukewarm liquors with the exception of Developer ON. Developing with Developer ON is effected at a temperature of 60 to 70 degrees C. A sufficient quantity of acetic acid of six degrees Be concentration is added to this same developing liquor until it attains a slight acid reaction. The liquor should turn a piece of blue litmus paper a distinct red. The fabric is then thoroughly soaped with a warm soap liquor containing two to three grams of Marseilles soap per liter in order to increase the luster of the acetate rayon.

BRITAINS CHEMICALS

(Continued from page 544)

tish dyestuffs industry as a whole. The 1925 output of vat colors amounted to 7,295,769 pounds, as compared with 5,003,713 pounds in the preceding year. Production of synthetic indigo, the most important member of this group, increased from 4,632,752 pounds in 1924 to 6,851,286 pounds in 1925.

While the above-mentioned production is in some respects an encouraging indication of the position of the British dyestuffs industry, and while the industry has undoubtedly been placed in a stronger position as a result of the formation of Imperial Chemical Industries (Ltd.), there remain nevertheless some unsatisfactory features. In the first place, it is stated that the United Kingdom is still a net importer of dyestuffs, the normal consumption requirements of the country being placed by one authority at about 40,000,000 pounds annually, or 25 per cent above the domestic production in 1925. In the second place, with the recovery of large German production and the important postwar developments in the United States and other countries, the fear is expressed in some quarters that stability in the world's dyestuffs situation may be hampered by excessive productive capacity, with consequent unfavorable reaction on the British industry. The solution of this phase of the problem would appear at present to lie in international cooperation, and the British dyestuffs industry is now in a position to enter into international negotiations on a more or less equal basis with other producing countries.

A fairly normal trade in fertilizers in the United Kingdom is reported for the fertilizer year ending June 30, 1926, in spite of depressed conditions in agriculture. Particular interest has centered in the position of the nitrogenous fertilizers, especially nitrate of soda and the synthetic nitrogen products. The consumption of nitrate of soda in the United Kingdom during the fertilizer year 1925-26, according to one authority, amounted to 70,500 tons as compared with 74,000 tons in the preceding year and 123,000 in 1913-14. Imports dropped from 82,248 tons in 1924 to 81,424 tons in 1925 and to 38,975 tons in 1926. Stocks of this product in the United Kingdom at December 31, 1926, were given as 7,000 tons, compared with approximately 20,000 tons at the end of each of the two preceding years. The position of this fertilizer in the United Kingdom depends largely,

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upon world conditions, the particular outlook for 1927 depending very largely upon what steps are taken to meet the competition of the synthetic nitrogen products.

World production of sulphate of ammonia increased very materially during the past year, and while output of by-products sulphate of ammonia declined, owing to the unsatisfactory position of the iron and steel trades, and in Great Britain particularly as a result of the coal strike, there is nevertheless a large net increase in the total output of nitrogen in the form of sulphate. British production of synthetic ammonium sulphate is increasing and is expected eventually to reach a total of 200,000 to 300,000 tons (reports differ as to the amount) per year. Prices of sulphate have also tended downward, and sales methods have been well organized and highly developed, whereas nitrate of soda prices have remained high and sales methods less efficient.

There is apparently some feeling in the trade that the nitrate of soda producers need not fear unduly the competition of synthetic nitrogen products so long as they are produced in the ammoniacal rather than the nitric form, provided the price differential can be overcome. Nevertheless, the outcome of this competition remains uncertain, particularly with the prospect of further price reductions in both synthetic nitrogen products and by-product sulphate during the current year, and there is no doubt that some early and definite action must be taken if nitrate of soda is to continue to be as important a factor in the fertilizer trade in this country as it is elsewhere. One authority states that the consumption of nitrate of soda in the United Kingdom during the last half of the calendar year 1926 declined 55 per cent, as compared with the corresponding period of 1925, but this decline may, of course, be attributed in part to the general depression caused by the coal strike.

An interesting addition to the fertilizers used in Great Britain is the new form of calcium cyanamide (containing about 19 per cent nitrogen and 60 per cent lime), which was placed on the market a little over a year ago. Sales are reported to have been rather small thus far but are now increasing, and further increases are thought to be probable.

Important developments during the past year in the perfection of the new type of lacquer or cellulose varnishes have been made in Great Britain, as in other countries, and it seems likely that British firms will continue active with the developments of these and similar products. Considerable stimulus to investigation and research in this and similar lines has been given during the past year by the formation in September of the Research Association of the British Paint Color and Varnish Manufacturers, which had been brought about through the national federation of associated paint color and varnish manufacturers of the United Kingdom and which has also been given the active support of the Government Department of Scientific and Industrial Research. The facilities and financial assistance of the latter department are understood to have been placed at the disposal of the new research association, and the information which may be gained by it will be used among the members and should prove of considerable value both to the trade and to consumers.

The industry has also been active in standardization work in connection with the British Engineering Standards Association, and a considerable amount of important work has been reported relative to preparing standard specifications for a number of paints, colors, and varnishes. It is stated that 14 set specifications have been published and that 9 more will be issued shortly, while an additional 22 are in course of preparation.

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TUNG OIL IN FLORIDA

(Continued from page 542)

American Tung-Oil Corporation, has had a very successful experience in its field operations. Trees have made good growth and those in bearing have shown a tendency toward annual bearing and the production of average yields which is most encouraging.

Other companies, as well as individuals, have become interested and plantings in the State are increasing quite rapidly. Figures from a reliable source show over 250,000 trees planted in groves to date, the equivalent of about 3,600 acres. Of these approximately 30,000 are in bearing this year and 160,000 will be in bearing by 1928.

The future of the young industry will depend, to a great extent, upon the results of the next year or two. Within this time much will have been done toward establishing practical methods of cultivating, fertilizing and pruning and the increasing production of oil will furnish data upon which accurate estimates of gross and net returns can be based. If these are such as to encourage additional plantings the industry is apt to grow rapidly. Trees come into a bearing at from three to four years of age and a considerable production of oil would not be far behind an extensive increase in plantings. It is entirely possible that Florida will eventually give us a domestic supply of tung-oil.

THE FERTILIZER FUTURE

(Continued from page 536)

obviously change in the line of progress. It is, moreover, progress which may prove the veritable solution of the pressing problems of both the farmer and the fertilizer manufacturer. During a period of unexampled industrial and commercial prosperity, neither of them has to put it mildly, enjoyed good times. Neither has sold his products at reasonable profits.

Since the World War, during the period of all these chemical advances, the competitive pressure within the fertilizer industry between the manufacturer and the mixer has been constantly increasing. Their wide differentials in overhead and investment have meant different costs which have prompted sales policies that have intensified this situation. Compare any of pre-war and present costs—of raw materials, of labor, of sales expense, of freight rates—and plainly the fertilizer indus-

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try has been forced to sell its goods too cheaply. And yet, during this same period, the American farmer has never before so needed to reduce his own production cost, of which fertilizer has been, and increasingly will be, an important item. The chemicalization of both industries may well be the way out. Lower fertilizer prices would assuredly be a most efficient means of reducing the farmer's production costs.

Fertilizers produced by chemical means at lower costs can be sold the American farmer at a lower price, but at a living profit to the fertilizer maker.

AGRICULTURE AND CHEMISTRY

(Continued from page 539)

and Switzerland, received one to every million inhabitants; Germany one to every two and one-half million; Austria one to every three million; England one to every three and a quarter million; France one to every four million; the United States, one to every twenty-nine million.

This is the situation despite the fact that we have vastly more students in colleges and universities in proportion to the population than has any other country in the world. The difficulty seems to me twofold; We are not laying enough emphasis on pure science in proportion to our emphasis on the applications of science; and we are not stimulating and training an adequate personnel in scientific research.

Indeed, superior personnel is needed in every field touching scientific work. There is grave need, as I have pointed out, for workers in pure science. There is need likewise for those who can correlate and coordinate the facts discovered.

There is demand also for those who can interpret and apply to practical problems the results obtained through scientific investigation.

The agriculture of the future will be successful in proportion to the extent to which it is shaped and guided by the basic facts revealed by scientific research, especially in the fields of natural science, economics, engineering and business administration. If satisfactory progress is to be made in the solution of the diverse problems of the farm, to the end that agriculture may be more prosperous, the facts developed by research must be intelligently correlated and coordinated, superficials distinguished from fundamentals and the latter interpreted in the light of practical knowledge as well as scientific information.

CHEMISTS EMPLOYMENT CONTRACTS

(Continued from page 538)

the work and wrote it up. Also the credit for inventions should not be obscured by dragging in the names of superiors or corporate officials on any flimsy excuse, where they are not absolutely required by the fact of joint invention.

He will recognize, and intelligent corporate officers should do likewise, that such public acknowledgment of his good service, that the authority to represent his company in certain matters, that the resulting contact with outside men and with other industries and interests, all serve to fit him for larger usefulness in his own company. But he will see that they are the gift of training and opportunity which his company makes to him while at the same time paying for his time in learning and while risking loss through his blunders. They are a sort of special confidence, in return for which he owes a certain special loyalty. They should never be misused to further his own interest to the detriment of the company, or used as a means of breaking away from it so long as its treatment of him is reasonably fair.

His employment brings to the company certain train-

ing, knowledge and sometimes considerable experience. The company does not undertake to cease profiting thereby when he leaves, and it has no right to demand anything of that kind of him. He will recognize, however, that certain kinds of knowledge acquired with the company he has no right to publish or use. He will have little desire to do so, if the continued payment of royalties to him and his associates depends on the success of the company and its freedom from unfair competition which he might start or foster.

The Root of Much Evil

Certain things he has no right to use later because they are in a special sense the peculiar property of his employers. To clear the atmosphere these matters should not be subject to a blanket coverage in the contract. It should be provided therein that he give a special acknowledgment of such disclosures and be paid a small special consideration for this special confidential service. Then this small amount should be regularly paid to him —first, because trustworthiness is a definite asset, and second, because its special recompense carries over definite liabilities, not only to the one receiving the reward but also through him to those who may be tempted to misuse him and the information they may glean from him. But it should be clearly stated in the contract that information not so covered is part of his experience.

The employee will feel that his royalties and special considerations should continue to him for the life of the patent or the continuation of the confidential limitation. The reduction of royalty ought not to apply unless he resigns to take other employment in similar lines, otherwise the opportunity to reduce royalties which the employer has to pay would always be a temptation to make him discontented or to discharge him. He will recognize that when he goes to work for someone else in similar lines the reduction in royalty is only a fair offset to the assumption that, in his new place, he will try to devise some better method to supersede his previous invention. He will feel that so long as he pursues other lines, or retires, or is compelled by ill health to suspend work or change environment, he is entitled to the royality just the same.

He will recognize that some invention the company may not wish to hold exclusively, in which case they should have the right to a shop license without special royalty in return for his right to exhibit it to a prospective user and to have complete and full data as to the operation of the invention, its cost, etc.

"No Niggers in the Woodpile"

He will feel that every point for his protection should be as carefully and explicity set forth as should the provisions to protect the company. There should be no legal "niggers in the woodpile". Many lawyers deem it expedient to put into a contract some simple and harmless looking phrase or sentence that may have been interpreted by the courts in some special way, that enables them to give meaning to the clause where it occurs and possibly to the whole contract. One common method of obtaining such results may read to the young employee like mere cordial recognition of his own special experience, ability and the specially responsible character of the work to be entrusted to him. Occurring in the preliminary clauses of the agreement such statements may not appear to the layman as having anything to do with the specific obligations of either party. As a matter of fact they may easily take on the character of warranties upon the fulfillment of which may depend his right to enforce the contract at all, or they may strongly color the interpretation of every clause bearing on what he is to perform under the contract.

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The employment contract therefore should be a perfectly clear document carefully studied by counsel for both sides and preferably annotated and explained with reference to the law and decisions. It should be carefully purged of "niggers" and "tapeworms." Such care cannot be given by the individual employee to his own protection. He couldn't afford to pay 1% of the legal talent required. An employment contract should therefore be evolved by some one of the engineering societies or a group of them, collaborated on preferably by the Federal Department of Commerce and the Patent Office, criticised and clarified by two or three expert contract, corporation and patent lawyers, annotated so that the merest freshman can understand its effect, and published in a standard form like a lease or deed.

Invent or Perish

The law of natural selection was promulgated by an authority higher than the Constitution. It enforces itself night and day. The mighty mastodon, and dinosaurus bowed into oblivion before it, no less than the Egyptian, Roman, French, and German empires. Meanwhile the widely adaptable amoeba, that can divide itself in two and fruitfully recreate, has survived, and may well survive the human race. Just as certainly as we inhibit invention which is a civilization's way of adapting itself to its ever changing environment so certainly do we relegate that civilization to the scrap heap of oblivion.

From this point of view as well as from the point of view of the individual inventor, employee, or corporate employer, should we consider the matter of employment contracts. It is not a personal question. Not merely an industrial question. Rather is it broadly a matter of our national fitness to survive.

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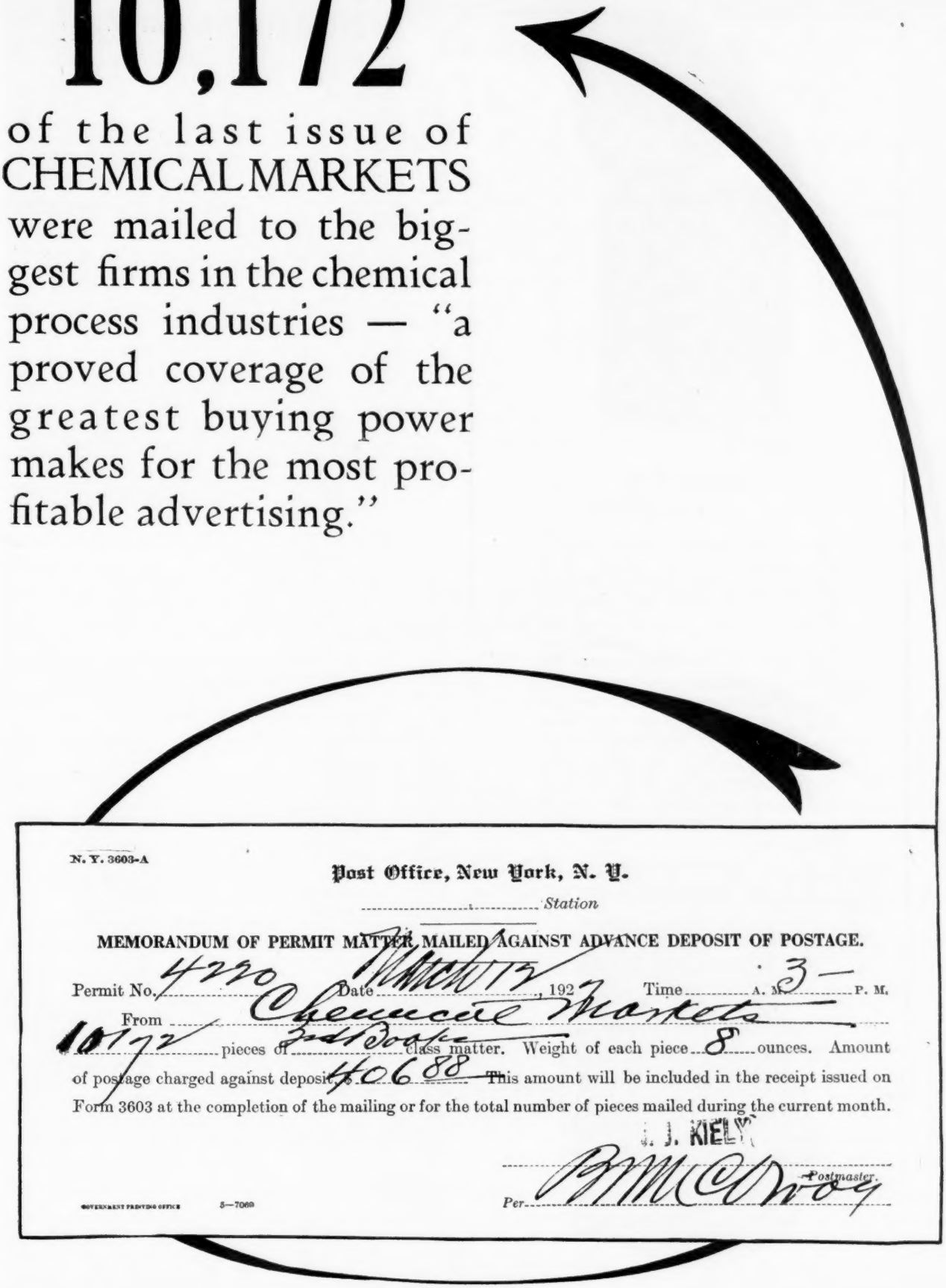

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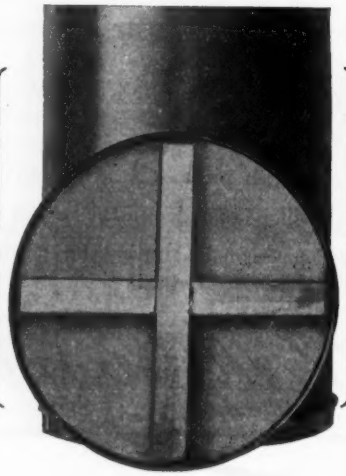


New Incorporations

John Regnier & Son Co., Wilmington, Del.; $500,000; casein and all kinds of chemicals; T. L. Croteau, A. L. Miller, Alfred Jervis.

Cox Lime, Stone & Lime Products Corp., Wilmington, Del.; stone and lime; $70,000 and 10,000 shares, no par; T. L. Croteau, A. L. Miller, Alfred Jervis.

Steel-Rite Chemical Co., Inc., Wilmington, Del.; 1,000 common; chemicals; M. M. Lucey, M. B. Reese, L. S. Dorsey.

Universal Laboratories, Albany, N. Y.; 500 common; chemicals; A. L. Ketcham, C. S. Schindler, P. W. Taylor.

M. & H. Silk Finishing Co., Inc., Union City, N. J.; $75,000; H. A. Richardson, R. C. Hunt, L. C. Burns.

Hachmeister-Lind Chemical Co., of Pennsylvania; Albany, N. Y.; $50,000.

European Wood Products Co., New York; 200 common; H. C. Hand, S. C. Wood, A. M. Stevens.

Luxor Silk Mills, Paterson, N. J.; $100,000; J. Kalish, M. Markowitz, I. Licker.

Middlesex Concrete Products Co., Avenel, N. J.; $125,000; A. Brown, A. J. Neiss, M. J. Neiss.

Lavo Chemical Co., Ltd., Walkerville, Ont., Can.; $20,000; Chas. G. Hewson, Arnold C. Hewson, Neil C. McPhee.

Alsask Chemical Products, Ltd., Calgary, Alta.; $100,000; John C. Jones, Chas. A. Wright, John A. MacDonald.

Campana Corp., Ltd., Toronto, Ont., Can.; $75,000; manufacture chemicals; Louis F. Heyd, Norman G. Heyd, Colin C. Ferguson.

A. B. Products Co., New York; $5,000; chemicals; A. Michaels, A. Bluestein.

Robers Tile Corp., Dover, Del.; $750,000; manufacture and sell concrete, building tile and other products; W. I. N. Loftand.

Frank P. Boyle, Inc., Wilmington, Del.; $50,000; paints, varnishes; T. L. Croteau.

Standard Agricultural Insecticide Machine Corp., New York; 500 common; H. Oppenheim, J. M. Wise, A. H. Zachs.

Mar-Vel-O Production Co., New York; $285,000 preferred; 3,000 common; chemicals F. W. Mills, H. Meyer.

Geo. B. Wheeler, New York; 2,000 prefd., 500 common; dye cloth; J. Johnston, C. L. Duryea, J. Smith.

Standard Casein Products, Inc., Newark, N. J. 1,000 common; O. Bate, R. M. Shields D. Tentey.

Electric Chemical Process Corp., Dover, Del.; petroleum; 500,000; E. E. Craig, A. L. Raughley, M. S. Cook.

Miller Prod. Inc., of Pittsburgh, Dover, Del.; 100,000; pyrotechnics; W. A. McCoy, W. Virdin, M. W. Cole.

Alexandria Chemical & Mining Co., Ltd., Alexandria, Ont., Canada; $100,000; Cyrille Lacombe, Michael Boudreau, Ovias Sauve.

Jaegge Co., Ltd., Toronto, Ont., Canada; $100,000; manufacture textiles; 1,000 shares no par; Frank Denton, William C. Lewis, Hartley D. McHairn.

Milton Spinners, Ltd., Milton, Ont, Canada; $200,000, 3,000 shares no par; manufacture textiles; Ellsworth Deyell, Bernard E. Park, William Tinker.

Elliott Mfg. Co., Ltd., Montreal, Que., Canada; $250,000, 5,000 shares, no par; manufacture textiles; Maurice Dugas, Leon Faribault, Eleanore Peacock.

Calcium Products, Ltd., Toronto, Ont., Canada; $98,000, 2,000 shares, no par; manufacture chemicals; Harold H. Gordon, Samuel T. Jinks, Robert Saunders.

Protex Chemical Co., New York, N. Y.; H. H. McCorkle, W. C. Morrill, C. J. Herald.

Tomarkin Foundation, New York; 1,000 common; chemistry research; R. D. Stefel, A. H. Frisch, L. Rubenstein.

Rite-Way Chemical & Exterminating Co., New York; $2,000; disinfectants; G. Meisels, E. R. K. Fiencke, B. Friedlander.

Home Use Disinfectant Co., New York; $25,000; F. Nasovsky, F. Meremda, F. Tricomi.

Grand Candle Works, $15,000; W. Rosenzweig, H. Kimmelman, L. Berry.

Dye Specialties Corp., Inc., Jersey City, N. J.; 1,000 common; S. D. Jones, J. C. Murray, J. T. Murray.

U. S. Phosphoric Products Corp., Wilmington, Del.; $1,000,000; T. L. Croteau, A. L. Miller, Alfred Jervis.

Flush-A-Way Chemical Corp., Oakland, Calif.; $100,000; soaps and disinfectants; N. R. Morris, E. H. Dennett, R. H. Jenkins, A. J. Lamie.

Avesan Chemical Co., San Francicso, Calif.; $50,000; W. V. Hirsh, C. H. Kornbeck, John B. Stearns.

Abitibi Fibre Co., Ltd., Montreal, Que., Canada; $10,000,000 and 100,000 no par; manufacture textiles; Conrad S. Demers, Edward J. Waterston, David M. Johnson.

Dominion Fabrics, Ltd., Dunnville, Ont., Canada; $500,000; manufacture textiles; Alexander Camelford, Thos. Camelford, Wm. Camelford.

Poughkeepsie Chemical Co., Poughkeepsie, N. Y.; 200,000 preferred, 6,000 common; D. W. Wilbur, C. S. Mitchell, F. L. Gardner.

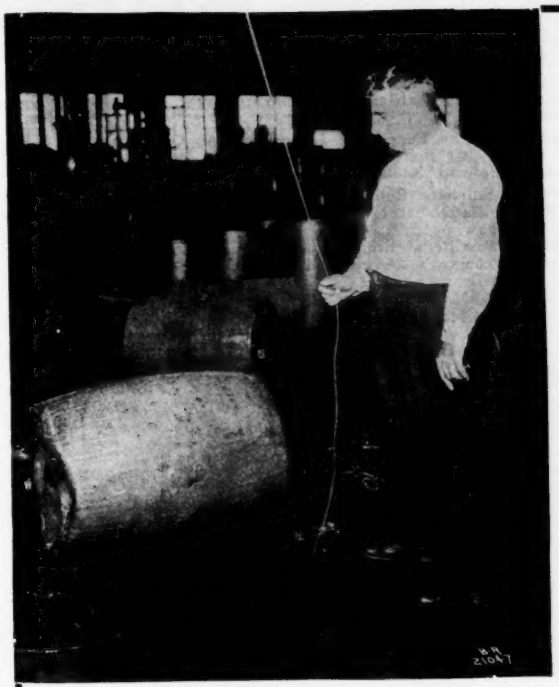
Magnesite & Gypsum Products Corp., Little Ferry, N. J.; 100,000; N. M. Anthracite, J. Hazard, Jr., G. O. Hutchinson.

Distillers Corp., Ltd., Montreal, Que., Canada; $2,500,000; Edward M. McDonald, Fernand Rainville, Helen King.

J. Henry Peters Mfg. Co., Ltd., Toronto, Ont., Canada; $1,000,000; textiles; James G. Smith, Neil Sinclair, James M. Tutt.

Filmer Carbon Products, Ltd., Toronto, Ont., Canada; $1,000,000; manufacture coke and chemicals John A. Campbell, Ethel Foster, Doris Roe.

Canadian Ansco Photoproducts, Ltd., Toronto, Ont., Canada; $50,000; Geo. W. Morley, Cable B. Clark, Frederick A. Beck.



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Rayon Converting Co., Inc., Paterson, N. J.; artificial silk; $125,000; F. U. Smith, Reuben L. Smith, M. A. O'Neill.

T. E. O'Reilly Chemicals,Ltd., Toronto, Ont., Canada; $35,000 and 5,000 shares, no par; Terrance E. O'Reilly, Harry A. Newman, Ivan C. Harris.

Wainwright & Lefebvre, Ltd, Montreal, Que., Canada; 2,000 shares, no par; textiles; Harold Wainwright, John Kerry, Donat Lefebvre.

Ottawa Valley Paper Co., Ltd., Montreal, Que., Canada; $5,000,000 and 100,300 shares no par; Edgar R. Perkins, Alexander J. Cooney, Howard S. Dunn.

Sodium Sulphate Refining Co., Ltd., Calgary, Alberta, Canada; $35,000 and 33,000 shares, no par; William P. Taylor, Ellen C. Ray, Guy M. Shaw.

Pacific Distillers, Ltd., Vancouver, B. C.; $250,000 Henry S. Wilson, Thomas N. Armit, Allister B. McGregor.

Newman Cleaners & Dyers Corp., 874 Broadway, N. Y.; $100,000; J. Newman, M. Newman, E. Newman.

Columbia Cleaning & Dyeing Co., Newark, N. J.; $50,000 ;G. Boorupy, S. Boorujy, A. Boorujy.

H. E. Hopf, Inc., Newark, N. J.; $25,000; candles; R. J. Kahrer, E. M. Kahrer, T. C. Robinson.

Carolina Feldspar Corp., New York; $20,000; ores and minerals.

Nu-Life Cleaners & Dyers, Inc., Leonia, N. J.; $20,000

Universal Piece Dye Works, Inc., Paterson, N. J ; $60,000 preferred, 400 comon; F. Kaufmann, E. B. Kaufmann, C. F. Bacharach.

Sterling Chemical Corp., Wilmington, Del.; $6,000,000; C. B. Bishop, A. S. Bishop, E. H. Feustel.

Flavin Products Corp., Wilmington, Del ; $350,000; polishes; M. L. Rogers, L. Irwin, Wm. G. Singer.

Blumann Rare Earths Chemical Co., Wilmington, Del.; $50,000; T. L. Croteau A. L. Miller, Alfred Jervis.

Fred W. Curtis Drug & Paint Co., Troy, N. Y.; $140,000; F. W. Curtis, M. L. Curtis, R. T. Curtis.

Great Northern Sugar Co., Wilmington, Del.; $700,000; T. L. Croteau, A. J. Miller, Alfred Jervis.

Leitch Mfg. Co., Lincoln, N. J.; $200,000 preferred, 2,000 common; C. A. Leitch, J. P. Gardthausen, M. F. Wood.

McCue Laboratories, West Orange, N. J.; chemicals; 100,000 preferred, 3,000 common; J. J. McCue, N. K. McCue, B. R. Ewart

Perry Chemical Co., Wilmington, Del.; 10,000 ommon; M. M. Lucey, M. B. Reese, L. S. Dorsey.

Scorpion Lead & Zinc Mining Co., Wilmington, Del.; $5,000; M. M. Lucey, M. B. Reese, L. C. Dorsey.

(Continued on page 610)

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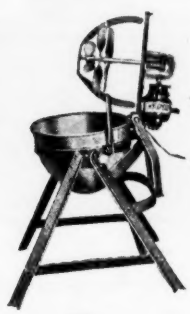

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Kay Laboratories, Wilmington, Del.; 2,500 shares, $100 each; 5,000 common, chemicals.

Pansy Decalcomania Corp., New York; $1,500; dyestuffs, C. W. King, L. Freyer.

Universal Ink, Inc., Wilmington, Del.; $100,000; chemicals, solvents; M. M. Lucey, M. B. Reese, L. S. Dorsey.

Weiss & Downs New York 100 common; consulting chemists; F. Luntz, H. C. Nugent, H. Messer.

Woodside Mfg. Co., Wilmington, Del.; products and byproducts of corn, sugar beets. rice; H. H. Hoch, C. I. Hoch, G. B. King.

American Bentonite Corp., New York; $500,000; A. M. Rossman, H. W. Redman, B. Balbin.

North Jersey Paint Co., Wallington, N. J.; $100,000; Robert O'Brien, W. J. Sutcliffe, Bernard Malizi.

Pacific Portland Cement Co., Sacramento, Cal.; $30,000,000; Herbert Fleishacker, J. A. McCarthy, John S. Drum, Milton H. Esberg.

Old Dominion Ice. Co. of New York; Dover, Del.; 50,000 shares; artificial Ice; R. P. Buell, C. B. Crane, W. H. Hall.

Iowa Corp. of Illinois, Dover, Del.; 2,000 shares; drugs, chemicals; E. E. Craig, J. M. Townsend, A. L. Raughley.

Trelford Paint & Varnish Co., London, Ont., Can.; 2,400 shares, no par; Douglas B. Duggan, Wilfred Heighington William Vickers.

Duro Products, Ltd., Toronto, Ont., Can.; 50,000 shares, no par; manufacture chemicals; William Keith, Otto Schultz Richard Storrar.

Arthur Silk Mfg. Co., Paterson, N. J.; $100,000; B. Altshuler, W. Everett, S. Rosenfeld.

Blue Flag Petroleum Corp., Wilmington, Del.; $250,000; petroleum, gas, asphaltum, and other minerals; S. L. Mackey, L. C. Christy, H. Kennedy.

Italian Olive Oil Corp., New York; $50,000; J. Poletti, A. Gnatowsky, A. R. McDermott.

Mill Chemical Co., New York; $10,000; O. Galotta, S. S. Brevetti, M. DiSanto.

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Bachmeier & Co., New York; $95,000 to $110,000.

Rose Chemical Products Co., New York; $1,000 to $25,000.

American Lacquer Co, New York; $500 to $100,000.

Sharples Solvents Corp., Philadelphia, Pa., $500,000 to $750,000; or 10,000 to 15,000 shares, no par.

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GLASS INDUSTRY CHEMICALS — Please quote, English currency, c.i.f.ci. Bombay, terms 30 to 60 days against acceptance through Chartered Bank of India, Australia and China, Delhi, or Hongkong & Shanghai Banking Corp., Bombay. On the following products: Selenium Metal Black 99% (Code K I J E B), Cadmium Sulphide Orange (Code D O W E M), Uranium Oxide Orange (Code U R N M O). Bishva Nath Gupta, Magazine House, Delhi, India.

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SPOT lot Fast Red A for sale. Box 632, CHEMICAL MARKETS.

CHEMICAL LIME PRODUCTS MANUFACTURERS ATTENTION.—We have large deposit of high grade Annville Limestone, 95 98 per cent calcium carbonate, available for quarrying on royalty basis. Deposit immediately adjacent to Reading Railway tracks. For particulars write D. M. Stoudt,

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SUPPOSITORIES—Stock or private formula. Write for prices and samples. Southport Chemical Co., 261 Greenwich St., New York City.

WANTED
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The Chemical Market-place

[Spot Stocks Department]

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Address All Communications to Main Office

Local Market Conditions

LOS ANGELES

Both general business and the chemical business are doing very well on the Coast at the moment. With the Spring season there has been an increased demand for calcium chloride and the movement has been outstanding above the entire field. The most important price change occurred in mercury, with domestic sales here on a higher level in conformity with the strength of other markets. Collections are fair.

CHICAGO

Glycerin and alcohol are still the best movers on a market which is improving both as to inquiry and sales volume. As in other sections the sharp advance in alcohol last week overshadowed all other movements of chemicals during the past few weeks and alcohol is very active here as a result. Otherwise vanillan and coumarin seem of most interest with sales in good volume at prices which show no change. Collections are fair.

BOSTON

Characterized as fair, general business conditions in the New England territory have shown little change since the last report. Easily the outstanding movement in the chemical field was the advance last week in the price of alcohol of 8½c gal. in all directions. Since the advance denatured alcohol has become active and now shares with textile chemicals the distinction of being most active in the entire field. A rather good movement of glauber salts, technical epsom salts and other textile chemicals is included in the activity. Collections are slow.

DETROIT

Conditions have improved quite a bit in the Detroit vicinity within the last month, and naturally chemicals are moving quite a bit better.

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Massachusetts

Rogers & McClellan
New England Agents
Seaboard Chemical Co.
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Methyl Acetone
Franco-American Chemical Wks.
Amyl Acetate Pyroxylin Solutions
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Glauber Salts Bisulphite Soda
Penn Chemical Works
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The Chemical Market-place

Spot Stocks Department

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Bleaching Powder-Anhydrous Ammonia
Modified Virginia Soda-Bicarbonate of Soda

Local Market Conditions

Denatured alcohol is practically the only item where the price has changed. This material has advanced approximately 6c per gallon, and is now being offered in drums at 46c per gallon. Collections are fairly good.

ST. LOUIS

General business conditions in the St. Louis district are improving and the same condition exists in the chemical field. The annual demand for agricultural and spray chemicals has set in and these items with sodium flouride and aluminum sulfate constitute the most active items on the entire list. The only important price changes since the last report has been an advance of ½c lb. in castor oil, all grades in keeping with the general advance throughout the country and a decline in lead oxide which is lower by ¼c lb. Collections continue to come through in fair volume.

BUFFALO

General industrial business in the Buffalo section has been increasing during the last few weeks and while the paint industry also seems to be improving it has not attained a normal gait as yet. There has been a better interest in shellac, turpentine and rosins due to firm markets. More interest than was expected was shown following the announcement of an increase in alcohol prices, which indicates that the trade is looking forward to futures. Collections are still below normal and this condition seems to prevail universally.

CLEVELAND

Business in the Cleveland district has shown considerable improvement within the last month and the paint, lacquer and varnish manufacturers are very busy.

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The Chemical Market - place Spot Stocks Department

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CHEMICALS
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WILMINGTON, N. C.

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AMMONIA - ACETIC ACID
FORMALDEHYDE
Kali Manufacturing Co.
1409 No. Hope St.
Philadelphia, Pa.

Local Market Conditions

Linseed oil has shown very little change since early March with quotations first week in April holding the same as early March. Good demand is reported, and shipping instructions against contracts and buying for future have been fairly good, some having been purchased as far ahead as December. China wood oil conditions are very firm with shipments coming in fairly well from China. The primary market has advanced and less carload shipment in Cleveland are quoted 30 to 35 cents. The toluol market remains very strong and supply is not plentiful. Benzol markets are firmer and an advance of 1c per gallon is reported. Alcohol has advanced 8½c during the past week with a little buying by the consuming trade. Glycerin has held steady at 26c. Lacquer solvents are active with butyl acetate very firm. General business seems to be very good, the steel companies being very well booked up for the present.

PHILADELPHIA

There seems to be a general complaint throughout the market here that business is falling off and does not approach the volume of business done a month ago. While many of the staple chemicals seem to show an advancing tendency this usually indicates that the market is in pretty good condition and we would say that during the past week business has been more than fair. Deliveries this season are heavier than usual, probably due to the lower prices which are being quoted this month over previous years. Contract customers are taking their full requirements.

C. P. Acetone continues in good demand. Wood alcohol shows no change and is firm in price while epsom salts U. S. P. also is in good demand. Formaldehyde is in fair demand and naphthaline is moving very well. Copper sulfate and castor oil are amongst the items moving well. The alkalies are quiet with no demand for soda ash and routine movement in caustic soda. Gray sal ammoniac is weaker at 5 7/8c lb. and white is steady at 5½c lb.

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[Catalogs & Bulletins]

Acid Pumps. Bulletin illustrates and describes application of acid pumps and other equipment under various conditions giving graphs, tables, and other important data. 15 pp. Oliver Continuous Filter Co. Bulletin 52 pp., gives complete information regarding application.

Acid Resisting Metals. Bulletin gives chemical and physical properties of ""Corrosion," a high silicon alloy; also illustrations of valves, fittings, and industrial equipment with some of their applications. 32 pp. Pacific Foundry Co.

"Agnew Centripact Machinery." 16-page bulletin illustrating and describing Centripact pulverizers for wet or dry grinding of minerals, coal, ores etc. Centripact Machinery Co.

Automatic Temperature Control. 8-page reprint stressing importance of temperature control in dye, explosives, and other chemical industries; milk pasteurization, and other food preparations; nickel plating, bleaching, paper, lumber, baking, and moving picture industries. Sarco Co.

Blowers, Meters. 27-page loose-leaf binder illustrating and describing rotary positive pressure blowers, gas exhausters, and booters, displacement meters, and cycloidal pumps. Connersville Blower Co.

"Bridgeport's Improved Sewerage System." 40-page bulletin giving photographs, maps, and other interesting data by James A. McElroy, City Engineer, Bridgeport, Conn. Also gives recent developments in sewerage treating equipment. Sanitation Corp.

Centrifugal Pumps. Bulletin, describes and illustrates with drawings motor driven pumps for handling sulfuric, hydrochloric, nitric acids, some mine waters, etc.; pumping tanks and tank cars 8 pp. LaBour Co.

Ceramics. 4-page folder showing economics and possibilities of ceramic industry in State of Georgia, as reprinted from The Manufacturers Record. J. M. Mallory, Central of Georgia Railway Co.

Commercial Minerals, Directory of. 150-page bulletin giving detailed information, illustrations, and maps concerning national resources of Georgia and their commercial possibilities. Central of Georgia Railway, Savannah, Ga. Other bulletins on Georgia clay as a filter in ceramic and brick industries.

"Commercially Pure Iron, the Story of." Interesting story of the development of the iron industry. Also useful information on oxidization of iron and steel and reasons why pure iron resists corrosion. 48 pp. American Rolling Mill Co., Middletown, Ohio. Also booklet on galvanized iron.

Crushers, Pulverizers, Feeders. Crushers for coal, coke, ore, rock, and chemical products of various natures; ball mills, pulverizers, and other equipment. 48 pp. C. O. Bartlett & Snow Co.

Fire Brick Cement. 16-page illustrated booklet giving interesting facts concerning use of Adamant cement under certain plant conditions and testimonials from several well-known concerns. Botfield Refractories Co.

"In Place of Fiber." Some of the latest applications of Bakelite under conditions where fiber has been used in past. 4 pp. Bakelite Corp.

Plug Valves. Catalog gives detailed description and illustrations of lubricated plug valves for various industrial applications. Made of iron, aluminum, semi-steel, or special alloys in two-way, three-way and four-way types. 64 pp. Merco Nordstrom Valve Co.

Pneumatic Conveying Systems. 4-page bulletin giving interesting descriptions, illustrations, and industrial applications of dust collection and recovering systems. 8½ x 11 in. Holly Pneumatic Systems.

"Pyrex." 20-page bulletin illustrating and explaining application of Pyrex equipment under various laboratory and plant conditions. Industrial & Equipment Div., Corning Glass Wks.

"Taking the Dust Out of Industry." Article on modern dust-collecting methods, and advantages and limitations of certain types of equipment. 4 pp. Northern Blower Co.

Tanks. Bulletin gives dimensions, drawings, and useful information on a big variety of different tanks for industrial purposes. 12 pp. Nashville Industrial Corp.

"The Solution of Your Mixing Problem." 16-page bulletin illustrating and describing improved mixing and stirring devices of importance to process industries. Columbia Metal Products Co.

Thermometers and Instruments. Bulletin 1927 edition, gives illustrations, useful descriptions, and price of draft gages, water gages, mercury gages, barometers, vacuum gages gravitometers, tank gages, and orsats. 20 pp. Precision Thermometers and Instrument Co.

Vacuum Dryers. 4-page bulletin illustrating and describing shelf dryers, rotary dryers, autoclaves, kettles, vacuum pumps, and other important process equipment. H. G. Trout Co.

Ventilation. 52-page bulletin giving very thorough information and data on ventilation of industrial plants and buildings. H. H. Robertson Co., Pittsburgh, Pa.

"Welding and Cutting Apparatus." 40-page bulletin illustrating and describing cutting and welding torches, repair kits, regulators, generators, portable acetylene plants, and lights designed for industrial use with list of users. Alexander Milburn Co.

Welding Electrodes. 4-page bulletin gives interesting information on Elkonite electrode and some of their advantages over hard copper and other materials. Elkon Works.

Ball and Tube Mill catalogue describing machinery used for grinding, illustrated, has been issued by Patterson Foundry & Machine Co., E. Liverpool, O.

Revolvator steel lift trucks are described and illustrated in a bulletin issued by Revolvator Co., which makes elevators, stackers etc. It has four working parts in lifting mechanism.

Abbe pebble mills, wax mills, disintegrators, rotary cutters, pulverizing and grinding machinery are described in a bulletin by Abbe Engineering Co.

Air Filters. Bulletin of 15 pages gives detailed description and blue-print illustrations of air filter installations for various requirements. Also bulletin giving detailed information regarding special air filters for compressors and engines. Mi-dWest Air Filters.

Air Heaters. Interesting bulletin describing equipment for returning to industrial furnaces and boilers a large proportion of the heat ordinarily lost in flue gases. Catalog, 14 pp. Combustion Engineering Corp.

Anti-slip Treads. A 4-page bulletin entitled "Make Walkways Safe," giving important statistics on the number of fatal accidents caused by industrial workmen falling on slippery flooring and describing anti-slip treads, which prevent these falls. American Abrasive Metals Co.

Ascoloy. Folder giving physical and chemical properties of this important alloy for resisting corrosion, high temperature, and abrasion. Allegheny Steel Co., Brackenridge, Pa.

Centrifugal Pumps. Illustrated bulletin giving details of construction and description of Taber Centrifugal and Rotary Pumps. 4 pp. Taber Pump Co.

Condensers.—Bulletin gives illustrations and description of atmospheric drip-type condensers for ice making and other industrial applications. 6 pp. Carbondale Machine Co.,

Dryers. Bulletin gives a large number of interesting photographs showing applications of rotary and stationary dryers for different process operations. Also gives useful data of interest to operators of dryers. 24 pp. C. O. Bartlett & Snow Co.

Dryers. Bulletin giving cross section view and details of construction of Judelson Evapo-Dryer. Judelson Evapo-Dryer Corp.

Electric Furnaces. Bulletin entitled "Hevi-Duty Industrial Electric Furnaces." Gives interesting information, photographs, and blueprints of electric furnaces for a number of different commercial processes. Also data on power consumption and temperature control. Hevi-Duty Electric Co.

Filters. Bulletin gives detailed descriptions and illustrations including cross section views of various types of American continuous filters for industrial operations. 36 pp. United Filters Corp.

Manitowoc Equipment. Bulletin illustrating and describing kilns, tanks, dryers, digesters, mixers, evaporators, and a variety of other industrial equipment for process industries. Manittowoc Shipbuilding Corp.

Metal Products for Process Industries. 8-page loose-leaf bulletin illustrating and describing pipe coils, tanks, kettles, sheet metal work, and a variety of different industrial products made from various metals and alloys. 8½x11¼ in. Hugh Co.

Metallic Packing. Bulletin gives useful information on a big variety of different types of metallic packing and a few of its detailed applications. Garlock Packing Co.

Pipe Coils and Bends. Bulletin illustrates and describes a variety of different types of pipe coils of brass and other metals and mentions some of their applications. 16 pp. National Pipe Bending Co.

Rotarex Separators. Bulletin illustrates and describes several different types of hand power and electric rotary separators for laboratory and industrial applications. 4 pp. Braun Corp.

Sifters and Screens. Bulletin gives useful information with illustrations of the Rotex sifters and screens for handling a big variety of bulk materials. 24 pp. Orville Simpson Co.

Spray-Drying Plants. Bulletin illustrating and describing equipment for spray-drying milk, fruit juices, and other products. Douthitt Engineering Co.

Steam Purifiers. Diagrams showing structure and operation and story of how they eliminate certain industrial difficulties. Also Bulletin on Piston Valves. 8 pp. each. Schutte & Koerting Co.

Steel Gratings and Treads. Folder giving illustrations, descriptions, and load factors of interlocked steel grating. Hendrick Manufacturing Co.

"The Glass Lining." A 20-page booklet of articles, illustrations, and technical descriptions of glass-lined receptables and chemical equipment and its up-to-date relationship to dairy, food, and other industries. Pfaudler Co.

Turbines, Mechanical Drive. Bulletin gives complete details and illustrates these units. 8 pp. General Electric Co.

Vacuum Dryers. Illustrated bulletin gives interesting information on performance and application of the "Spray-Film" Drum Dryer. 4 pp. Chemical & Vacuum Machiner yCo.

Black Art of Rubber Compounding. Gives interesting and useful information and data on application of dffe ent grades of stearic acid in rubber compounding. 12 pp. Binney & Smith

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Tar Acid Refining Corp.

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Michigan Alkali Co.
Niagara Alkali Co.
Pennsylvania Salt Manufacturing Co.
Roessler & Hasslacher Chemical Co.
Solvay Process Co.
Turner & Co., Joseph
Warner Chemical Co.
Winkler & Bros., Co., Isaac

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Monsanto Chemical Works
Pennsylvania Salt Co.
Roessler & Hasslacher Chemical Co.

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Innis, Speiden & Co.
Lewis, John D.
Mallinckrodt Chemical Works
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Roessler & Hasslacher Chemical Co.
Turner & Co., Joseph
U. S. Industrial Chemical Co., Inc.

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Electro Bleaching Gas Co. (chlorine)
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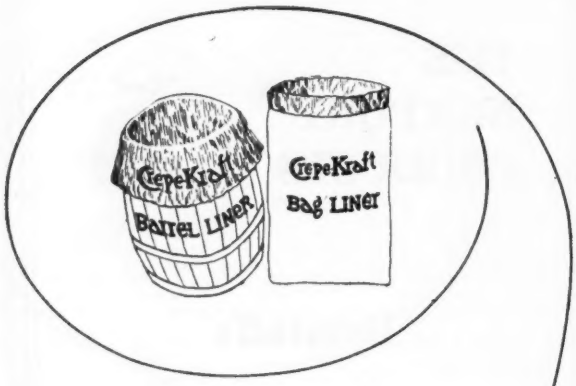

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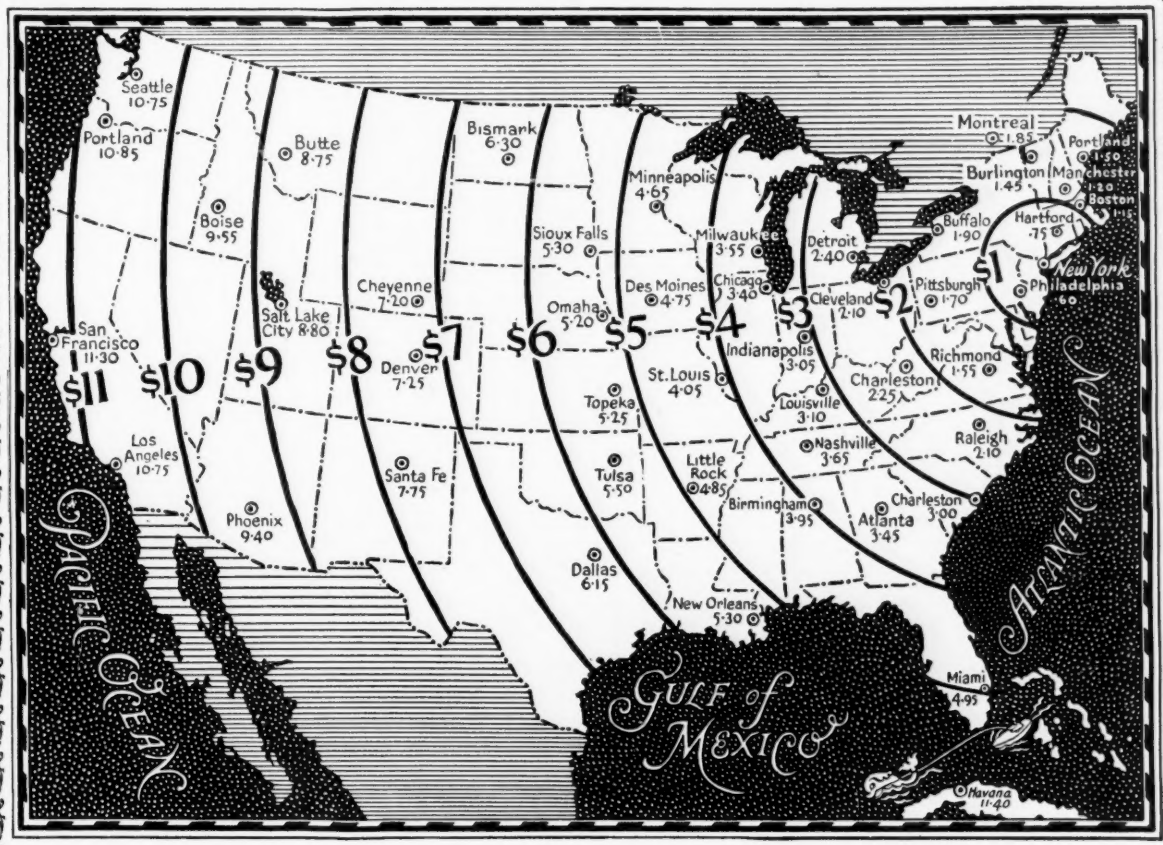

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